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WATER TEMPERATURE RECORDS FROM CALIFORNIA'S CENTRAL VALLEY

1939 — 1948

SPECIAL SCIENTIFIC REPORT: FISHERIES No. 2

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

UNITED STATES DEPARTMENT OF THE INTERIOR - J. A. Krug, Secretary
FISH AND WILDLIFE SERVICE - Albert M. Day, Director

Explanatory Note

The series, Special Scientific Report - Fisheries, embodies results of investigations, usually of restricted scope, intended to aid or direct management or utilization practices and as guides for administrative or legislative action. It is issued in limited quantities for the official use of Federal, State or cooperating agencies and in processed form for economy and to avoid delay in publication.

Washington D. C.
September 1949

WATER TEMPERATURE RECORDS FROM CALIFORNIA'S CENTRAL VALLEY, 1939 - 1948

By Oliver B. Cope, Fishery Research Biologist,
Branch of Fishery Biology

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INTRODUCTION

Biologists of the Central Valley Investigations, Fish and Wildlife Service, Department of the Interior, have been carrying on for some years studies of water temperatures in relation to the fisheries of streams of Northern California. These studies began in 1939, as a part of the fishery investigation occasioned by the construction of Shasta Dam on Sacramento River, and have since increased in importance and in intensity. Today, they are one of the principal features of the fishery studies of the Central Valley Investigations. The present prominent role of these inquiries has been partly a result of a growing need for specific thermal data on streams under consideration in connection with multiple water use projects, and partly a result of requirements for basic studies of the limnology of streams. Not only have many of these demands been met by the temperature records accumulated in the study, but other requests, from both fishery and engineering agencies, have been answered with extensive series of records. In turn, Central Valley Investigations has had the benefit of temperature data provided by other organizations. In spite of this free exchange of temperature data, many useful series of records have reposed, unused, in scattered files. The purpose of this report is to assemble the more important ones from the northern Central Valley, and to make them available for handy reference.

Temperature studies in the Central Valley, after 1939, began a gradual development, paralleling the other fishery studies related to Shasta Dam and its effects. During the war years, when the entire Shasta fishery

project was undermanned, thermal records were kept only on the upper Sacramento River and on a few tributary streams, in the Central Valley itself. Other studies were conducted on Trinity River (Moffett and Smith, 1949), incidental to a fishery investigation relating to a plan to divert water from that coastal drainage into the Sacramento system. A postwar expansion of the temperature studies began in 1946, when new stations were put into operation and new interests developed. Twelve thermograph stations were operating by the end of 1946, as well as several hand thermometer stations, and in 1947 additional localities were brought under investigation. The California Division of Fish and Game also expanded its temperature studies in 1946. They operated several thermographs in the middle and southern Central Valley. The U. S. Bureau of Reclamation and the Division of Water and Sewers, City of Sacramento, have maintained their interest in the collection of thermal data, and these agencies have rendered this report more useful by providing records for inclusion.

METHODS AND EQUIPMENT

Recording thermographs were used to register temperature readings in the cases of most stations treated here. In some instances, hand thermometer readings taken twice daily over long periods are included because they represent the only records from that particular station. Thermographs were calibrated once each week.

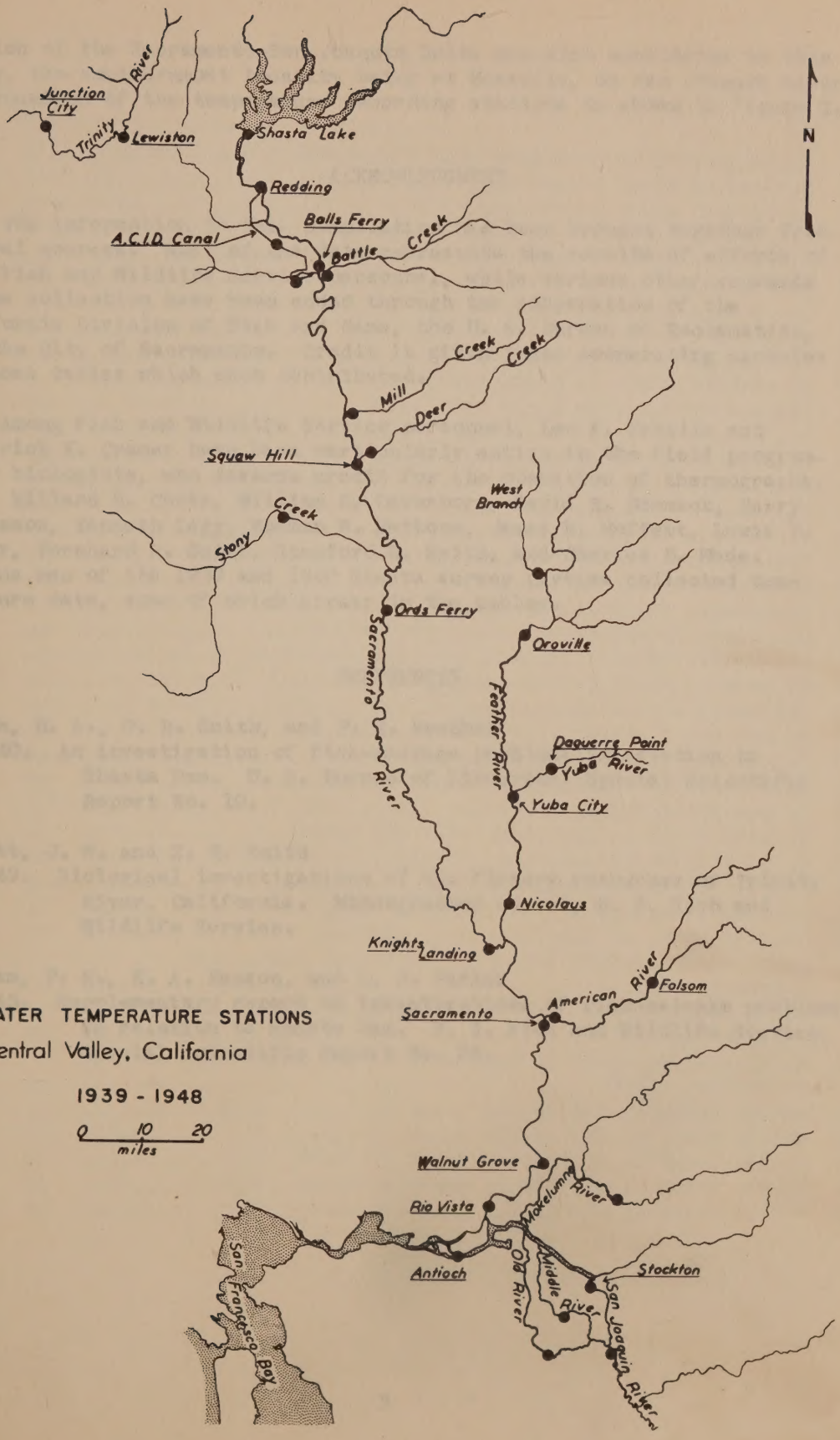
Data transcribed from thermograph sheets have been interpreted only to the nearest degree, Fahrenheit. This degree of accuracy has been selected as most practical on the basis of precision of the thermographs, the width of the stylus line in relation to the spaces on the thermograph chart, the number of people transcribing data, and the statistical significance of more refined interpretation.

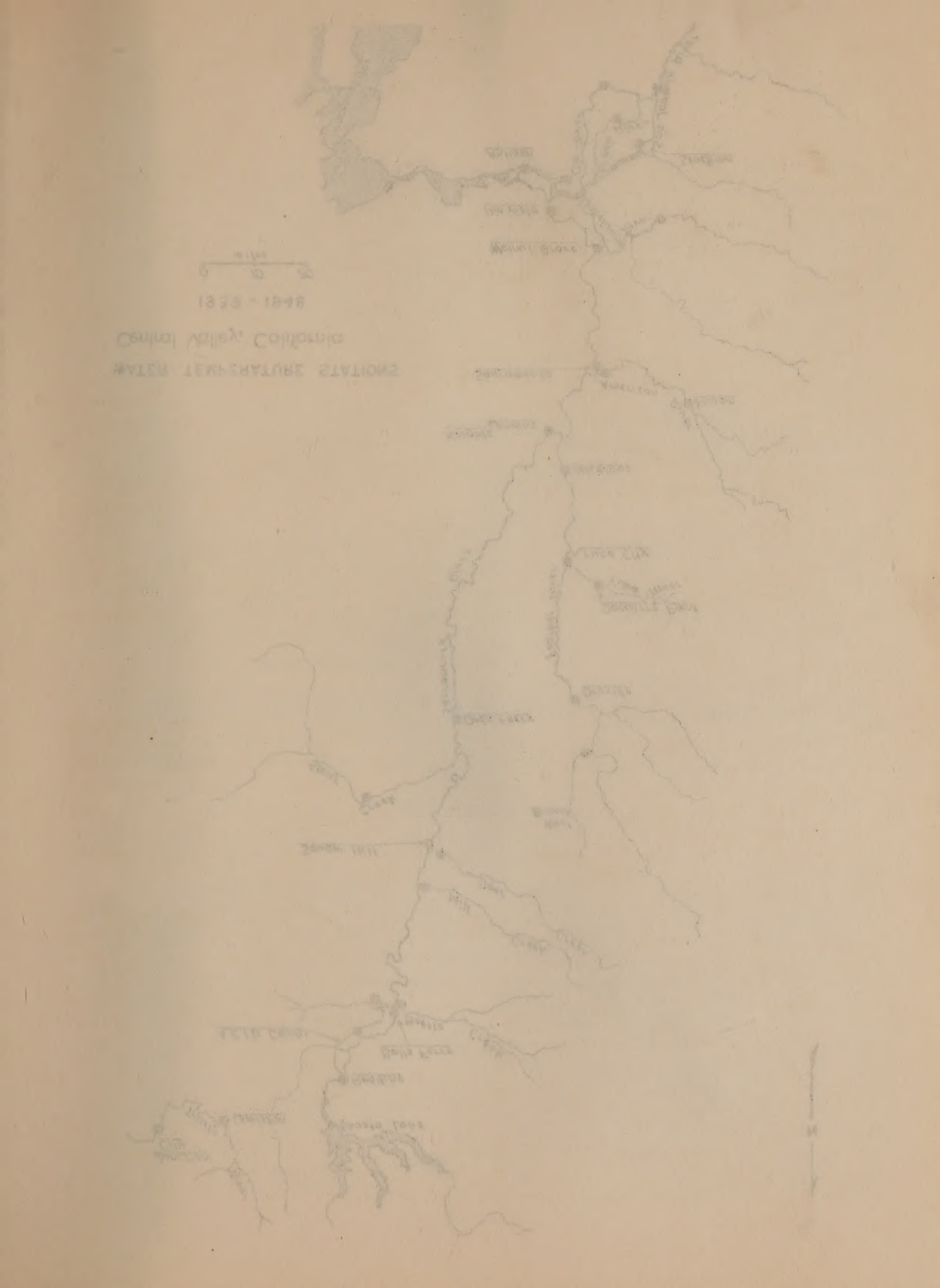
Daily maximum and minimum temperatures are presented for those stations served by thermographs, and monthly mean values are given at the base of each column. When hand thermometer readings are presented in the tables, the hour at which temperatures were taken is indicated.

SCOPE

The territory treated here is, with only one exception, within the confines of the Central Valley of California. The exception is the Trinity River at Lewiston and Junction City, and is included because of the completeness of the records and the fact that Trinity River water may yet be diverted to the Sacramento drainage. The northernmost valley records are from the discharge through Shasta Dam. Several stations downstream to the mouth of Sacramento River are included, as well as those on various important tributaries. Stations in the San Joaquin

Figure I. Stations at which temperatures given in this report were recorded.


Junction City
Trinity River
Lewiston
Shasta Lake
Redding
Balls Ferry
A.C.I.D. Canal
Battle Creek
Mill Creek
Deer Creek
Squaw Hill
West Branch
Stony Creek
Ords Ferry
Sacramento River
Oroville
Feather River
Daguerre Point
Yuba River
Yuba City
Nicolaus
Knights Landing
American River
Folsom
Sacramento
Walnut Grove
Mokelumne River
Rio Vista
Antioch
Old River
Middle River
Stockton
San Joaquin River
San Francisco Bay
N
WATER TEMPERATURE STATIONS
Central Valley, California
1939 - 1948
0 10 20
miles



portion of the Sacramento-San Joaquin Delta are also considered in this study, the southernmost locality being at Mossdale, on San Joaquin River. The location of the temperature recording stations is shown in Figure I.

ACKNOWLEDGMENT

The information in this compilation has been brought together from several sources. Most of the data represents the results of efforts of many Fish and Wildlife Service personnel, while various other segments of the collection have been added through the cooperation of the California Division of Fish and Game, the U. S. Bureau of Reclamation, and the City of Sacramento. Credit is given these cooperating agencies on those tables which each contributed.

Among Fish and Wildlife Service personnel, Leo F. Erkkila and Frederick K. Cramer have been particularly active in the field program. Other biologists, who deserve credit for the operation of thermographs, are: Millard H. Coots, William H. Davenport, David H. Hammack, Harry A. Hanson, Kenneth Legg, Norman W. Mattoon, James W. Moffett, Lewis P. Parker, Bernhard R. Smith, Stanford H. Smith, and Charles B. Wade. Various men of the 1939 and 1940 Shasta survey parties collected temperature data, some of which appear in the tables.

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TABLE 1

Water Temperatures, Sacramento River at Shasta Dam*

Industrial thermometer readings taken in Shasta Dam powerplant, Shasta County, California
Sec. 15, T. 33 N., R. 5 W., Mt. Diablo B. & M.
Temperature, in degrees Fahrenheit, 1944-1948

Date	1944	1945	1946	1947	1948
Jan. 4			50.0		
5		50.9			52.0
7				51.8	
13		48.0			
18			50.0		
20					50.0
21				48.2	
28		48.3			
29					50.0
31				48.2	
Aver.		49.1	50.0	49.4	50.7
Feb. 1			48.2		
11		48.2			
13				48.2	
15			46.4		
16					48.0
25		46.4			48.0
27				48.2	
Aver.		47.3	47.3	48.2	48.0
Mar. 1			46.4		
9					48.0
13		48.2		46.4	
14			46.4		
24					46.0
27				46.4	
29			46.4		
30		48.2			
Aver.		48.2	46.4	46.4	47.0
Apr. 9					46.0
10				48.2	
12			46.4		
15		46.4			
25			48.2		
29		48.2			
30					46.0
Aver.		47.3	47.3	48.2	46.0

Date	1944	1945	1946	1947	1948
May 7					48.0
8				48.2	
10			48.2		
14		48.2			
22				48.2	
24			48.2		
29		48.2			
Aver.		48.2	48.2	48.2	48.0
June 1					48.0
6				48.2	
9					48.0
10			48.2		
14		49.1			
23				48.2	
24			48.2		
Aver.		49.1	48.2	48.2	48.0
July 1		48.2			
3				50.0	
8			48.2		
9					48.0
15		48.2			
18				50.0	
22					48.0
28			50.0		
29		50.0			
Aver.		48.8	49.1	50.0	48.0
Aug. 2			50.0		
4				51.8	
10		50.0			
14				51.8	
16			50.0		
24					50.0
26		51.8			
28				54.0	
30	64.4		53.6		
Aver.	64.4	50.9	51.2	52.5	50.0

Date	1944	1945	1946	1947	1948
Sept. 8		53.6			
10					52.0
13	64.4		53.6		
18	64.4				
19		55.4			
30			53.6	55.0	
Aver.	64.4	54.5	53.6	55.0	52.0
Oct. 2	64.4				
5		57.2			
11		57.2			
12					52.0
14			55.4		
20	62.6				
23				55.4	
26	61.7	57.2			
27					55.0
28			55.4		
Aver.	62.9	57.2	55.4	55.4	53.5
Nov. 8		57.2	55.4		
21				57.0	
25			55.4		
28		55.4			
Aver.		56.3	55.4	57.0	
Dec. 5				53.6	
7		53.6			
8					55.0
13	51.8				
20		52.7	51.8		
22				53.6	
24					57.0
30				53.6	
Aver.	51.8	53.2	51.8	53.6	56.0

*These data are made available through Region II, U. S. Bureau of Reclamation.

TABLE 2

Daily Afternoon and Morning Water Temperatures, Sacramento River at Redding

Hand thermometer readings taken at Anderson-Cottonwood Irrigation District Dam, Redding, Shasta County, California
Sec. 26, T. 32 N., R. 5 W., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 19 39

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.
									5 PM	9 AM	5 PM	9 AM	5 PM	9 AM	5 PM	9 AM	5 PM	9 AM	5 PM	9 AM	5 PM	9 AM	
1									59	59	66	65	70	69	73	71	-	64	62	62	55	55	
2									60	59	66	66	69	68	73	71	-	64	60	60	54	54	
3									60	59	66	66	68	68	72	70	-	64	59	57	-	54	
4									60	59	65	64	68	67	72	70	-	63	58	56	54	52	
5									61	60	63	63	68	67	71	69	64	63	57	58	52	52	
6									61	60	64	62	69	68	71	69	64	64	57	56	52	51	
7									62	61	65	64	70	68	71	69	63	63	58	56	52	51	
8									63	62	66	65	70	70	71	69	63	63	57	56	51	50	
9									64	62	67	66	70	70	71	69	62	62	58	56	51	50	
10									64	63	68	67	72	71	71	69	62	62	59	58	50	50	
11									63	62	68	68	72	71	70	69	-	63	59	58	50	49	
12									63	62	70	69	72	70	70	69	64	63	59	58	50	49	
13									63	63	70	68	72	71	70	69	62	61	58	58	49	49	
14									64	64	69	68	72	71	70	69	62	59	58	57	50	48	
15									64	64	65	66	70	70	69	69	62	60	58	57	49	48	
16									64	64	62	62	71	71	70	69	62	60	58	57	-	48	
17									64	64	62	61	71	70	70	69	62	61	57	56	48	-	
18									62	63	62	62	71	70	69	69	62	61	56	55	-	-	
19									62	60	64	63	70	70	70	69	63	62	56	55	-	-	
20									58	60	66	66	70	69	69	69	63	62	56	55	-	48	
21									56	57	68	66	71	70	68	68	65	64	-	-	-	46	
22									56	55	69	68	71	70	68	68	66	64	58	56	-	47	
23									56	54	68	68	72	70	67	68	65	65	57	56	-	-	
24									60	58	68	68	72	70	68	69	65	64	54	55	48	47	
25									62	61	68	68	72	71	68	68	62	63	52	53	-	46	
26									65	63	70	68	72	71	68	67	61	62	51	51	-	-	
27									66	62	70	68	72	71	65	66	61	61	54	51	-	-	
28									66	64	70	69	72	71	66	65	62	61	56	53	-	-	
29									69	68	70	69	73	71	65	65	62	61	-	55	-	-	
30									70	65	70	69	73	71	63	64	62	62	56	-	-	-	
31									66	66	-	-	73	71	64	64	-	-	56	55	-	-	
Av.									62.3	61.4	66.8	66.0	70.9	69.9	69.1	68.3	62.8	62.4	57.0	56.0	51.0	49.7	

TABLE 3

Daily Maximum and Minimum Water Temperatures, Sacramento River at Redding

Thermograph located on headworks of Anderson-Cottonwood Irrigation District Canal, Redding, Shasta County, California
Sec. 26, T. 32 N., R. 5 W., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1947

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1									50	49	50	50	51	50	53	51	55	53	57	55	58	58	55	54
2									50	49	50	49	51	50	53	51	55	53	57	56	58	58	55	53
3									50	49	50	49	52	50	53	51	55	53	57	56	58	57	55	55
4									50	49	50	49	52	50	53	51	55	54	57	56	57	57	55	54
5									50	49	-	50	52	50	53	51	55	54	57	56	58	57	55	54
6									50	49	50	50	52	50	53	51	56	54	57	56	58	57	56	55
7									50	49	50	50	52	50	53	51	56	55	57	56	58	57	55	54
8									50	49	51	50	51	50	53	51	55	54	57	56	57	57	55	54
9									50	49	51	50	51	50	53	51	55	53	57	56	57	57	55	53
10									50	49	51	50	51	50	53	51	55	53	57	56	57	56	54	-
11									50	49	52	50	52	50	53	51	55	54	58	57	57	56	54	-
12									50	49	51	50	52	50	53	51	56	54	58	57	58	56	53	-
13									50	49	52	50	52	50	53	51	57	55	57	56	58	57	53	-
14									50	49	52	50	52	50	53	51	57	55	57	56	58	57	54	-
15									50	49	51	50	52	50	54	51	56	55	57	57	57	57	54	-
16									50	49	50	50	52	50	54	52	56	55	58	57	57	57	53	-
17									50	49	51	50	51	50	54	52	56	55	58	57	57	56	54	-
18									50	49	50	49	52	50	54	52	56	55	58	57	56	55	54	-
19									51	49	51	50	52	50	54	52	57	55	58	57	57	56	55	-
20									51	49	52	50	52	50	53	52	57	55	57	57	57	56	54	-
21									51	49	52	50	52	50	53	52	57	55	57	56	57	56	-	-
22									51	49	52	50	52	50	54	52	57	55	57	57	57	56	-	-
23									51	49	52	50	52	50	55	52	57	55	58	57	57	56	53	-
24									51	49	51	50	52	50	55	53	56	55	58	57	57	56	53	-
25									51	49	52	50	52	50	55	53	57	55	58	57	57	55	53	-
26									51	49	52	50	53	51	54	52	57	55	58	58	57	56	53	-
27									51	49	51	50	52	51	54	52	57	55	57	57	56	55	53	-
28									51	49	51	50	53	51	55	53	58	56	57	57	56	56	53	-
29									51	49	51	50	52	50	54	53	57	55	57	57	56	56	53	-
30									51	49	51	50	52	50	55	53	57	55	57	57	55	55	53	-
31									51	49			52	50	55	53			58	58			53	-
Av.									50.4	49	51.1	49.8	51.9	50.0	53.7	51.7	56.2	52.7	57.3	56.3	56.7	56.3	53.9	54.0

TABLE 4

Daily Maximum and Minimum Water Temperatures, Sacramento River at Redding

Thermograph located on headworks of Anderson-Cottonwood Irrigation District Canal, Redding, Shasta County, California
Sec. 26, T. 32 N., R. 5 W., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1948

	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
Date	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	51	50	51	-	50	46	49	47	50	49	50	49	51	49	51	49	53	51	54	53	55	54	53	53
2	51	49	51	-	49	46	49	49	50	49	50	49	51	49	51	49	53	51	54	53	55	55	54	53
3	52	51	51	-	49	46	49	48	50	49	50	49	51	49	51	50	53	51	53	53	55	55	54	53
4	52	52	50	50	48	-	50	49	50	49	50	49	51	49	52	50	53	51	53	53	55	54	54	53
5	52	52	50	-	49	48	50	48	49	49	50	49	51	49	52	50	52	51	54	53	55	54	53	52
6	52	51	50	-	49	48	49	48	50	49	51	49	51	49	52	50	52	51	54	53	55	54	52	51
7	52	52	50	-	49	48	49	49	50	49	50	49	51	49	52	50	53	51	54	53	54	54	52	52
8	52	51	49	-	49	49	49	48	50	49	50	49	51	49	52	50	53	51	54	54	54	53	53	52
9	52	50	49	-	48	48	49	48	50	49	50	50	51	49	52	50	53	51	55	54	54	54	53	53
10	51	51	52	-	49	47	50	49	50	49	50	50	51	49	52	50	53	51	55	54	55	54	53	49
11	52	51	50	-	49	47	-	47	50	49	50	49	51	49	52	50	52	51	54	53	55	54	52	50
12	51	50	50	-	49	48	50	49	50	49	50	49	51	49	52	50	52	51	54	53	55	54	52	50
13	51	50	50	-	49	48	49	49	50	49	51	49	51	49	52	50	52	51	54	54	55	54	51	49
14	51	50	50	-	50	49	49	49	50	49	51	49	51	49	52	50	53	51	54	54	55	53	52	47
15	51	50	50	-	50	48	49	49	-	-	50	49	51	49	52	50	53	51	54	54	55	54	52	47
16	51	50	50	-	49	49	49	48	50	49	50	50	51	49	52	50	53	52	54	53	54	54	52	48
17	52	50	49	-	49	-	49	48	50	49	50	50	51	49	52	50	52	52	54	53	55	54	53	48
18	51	50	49	-	49	-	50	49	50	49	50	49	51	49	52	51	52	52	54	53	55	54	52	46
19	52	50	49	-	50	-	49	49	50	49	50	49	51	49	52	51	53	52	55	53	55	54	52	46
20	51	50	51	-	-	49	49	49	50	49	51	49	51	49	52	51	53	52	55	54	54	53	52	48
21	51	48	-	-	49	49	50	50	50	49	50	49	51	49	52	51	53	52	55	55	54	53	51	45
22	50	49	51	-	49	49	49	48	51	49	51	49	51	49	52	51	53	52	55	54	54	53	52	46
23	50	48	49	-	49	49	49	48	51	49	51	49	51	50	52	51	54	53	55	54	54	53	54	45
24	50	49	49	-	49	-	49	49	50	49	50	49	51	49	52	51	54	53	54	54	54	54	54	47
25	50	49	49	-	49	-	49	48	50	49	50	49	51	49	53	51	53	52	55	54	54	53	51	47
26	50	49	49	-	49	-	49	49	50	49	51	49	51	49	53	51	54	53	54	54	54	53	51	47
27	51	48	49	-	-	-	49	49	50	49	51	49	51	49	53	51	54	53	55	54	55	53	50	48
28	51	48	49	-	49	49	50	50	50	49	51	49	51	50	53	51	54	53	55	55	55	53	50	48
29	50	48	50	-	-	-	50	50	50	49	51	49	51	50	53	51	54	53	56	55	55	53	50	48
30	51	48			-	-	50	50	50	49	50	49	51	50	53	51	54	53	56	55	53	53	51	47
31	51	48			49	48			50	49			51	49	53	51			55	55			51	48
Av.	51.1	49.7	49.8	-	49.1	48.0	49.3	48.7	50.0	49.0	50.3	49.1	51.0	49.1	52.1	50.4	53.0	51.7	54.4	53.7	54.6	53.7	52.1	48.9

TABLE 5

Daily Maximum and Minimum Water Temperatures, Sacramento River at Balls Ferry

Thermograph located at Balls Ferry Rack, six miles east, south, east of Anderson, Shasta County, California
Sec. 34, T. 30 N., R. 3 W., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1941 and 1945

	1941								1945			
	July	Aug.	Sept.	Oct.					Dec.			
Date	Max.	Max.	Max.	Max.					Max.	Min.		
1	-	72	64	60					-	-		
2	-	73	65	61					-	-		
3	-	72	66	61					-	-		
4	-	72	67	59					50	49		
5	-	73	-	58					51	49		
6	-	72	-	58					49	48		
7	-	72	-	56					51	50		
8	-	72	-	56					51	51		
9	-	72	-	56					51	50		
10	-	71	-	56					50	48		
11	-	71	-	55					50	49		
12	-	69	-	54					-	48		
13	-	72	64	55					50	-		
14	-	72	64	55					50	48		
15	-	74	64	55					49	48		
16	-	73	64	56					49	47		
17	-	72	64	57					49	49		
18	-	72	60	56					-	-		
19	-	72	60	55					-	-		
20	-	72	59	56					-	-		
21	-	72	59	55					-	-		
22	-	71	59	54					-	-		
23	-	70	60	51					-	-		
24	-	70	60	50					-	-		
25	-	70	61	48					-	-		
26	-	70	62	-					-	-		
27	-	68	62	-					-	-		
28	-	67	62	-					-	-		
29	73	66	62	-					-	-		
30	73	65	61	-					-	-		
31	74	65		-					-	-		
Av.	73.3	70.8	62.2	55.7					50.0	48.8		

TABLE 6

Daily Maximum and Minimum Water Temperatures; Sacramento River at Balls Ferry
Thermograph located at Balls Ferry Rack, six miles east, south, east of Anderson, Shasta County, California
Sec. 34, T. 30 N., R. 3 W., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1946

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	-	-	-	-	49	47	48	46	-	-	54	52	54	54	-	-	55	52	57	55	55	53	-	-
2	-	-	47	45	49	47	50	47	-	-	55	52	55	51	-	-	55	53	57	55	53	52	51	-
3	-	-	45	45	49	47	49	48	-	-	55	53	55	52	-	-	55	53	55	54	54	52	51	49
4	-	-	46	45	49	47	50	48	-	-	54	52	55	52	55	51	55	52	56	54	55	52	50	49
5	-	-	46	45	46	45	50	48	-	-	53	52	55	51	54	51	55	53	-	-	54	53	51	50
6	-	-	46	45	47	47	51	48	-	-	-	50	55	52	54	50	56	53	-	-	54	53	50	49
7	-	-	46	45	48	47	51	49	-	-	54	-	55	51	54	51	56	54	-	-	54	53	49	49
8	-	-	-	-	49	47	51	50	-	-	53	51	54	51	55	50	56	55	-	-	53	51	49	49
9	-	-	46	-	50	47	50	48	-	-	53	51	54	51	55	50	56	53	-	-	54	53	51	50
10	49	48	47	45	49	47	50	48	-	-	53	50	55	52	55	51	56	53	-	-	54	53	51	49
11	49	47	48	46	49	47	53	49	-	-	54	51	55	51	55	51	56	54	-	-	53	52	51	50
12	49	47	47	46	47	45	51	48	-	-	54	51	55	51	55	51	56	54	-	-	-	-	50	50
13	49	47	47	46	47	46	51	50	-	-	54	51	55	51	55	51	56	54	-	-	54	52	51	50
14	48	47	48	46	48	46	53	49	-	-	-	52	55	52	55	51	56	54	-	-	54	54	51	50
15	48	48	48	-	48	46	53	50	-	-	54	-	53	51	55	51	56	55	-	-	54	53	50	50
16	49	47	48	46	48	47	52	50	-	-	54	51	54	49	-	51	56	54	-	-	53	52	50	49
17	48	47	49	47	49	47	52	50	54	-	54	51	54	50	54	52	56	54	-	-	54	53	50	48
18	48	47	47	46	49	47	53	50	53	51	54	52	55	50	55	51	57	55	-	-	54	53	51	48
19	48	47	47	45	47	47	-	-	54	51	54	51	55	51	54	52	57	54	-	-	54	51	52	50
20	-	48	47	45	47	46	-	-	53	51	55	52	55	50	55	51	-	55	-	-	51	50	52	50
21	48	47	46	46	47	46	-	-	53	51	55	52	55	51	55	51	57	55	56	55	52	51	50	50
22	48	46	48	45	48	45	-	-	53	50	54	51	55	51	55	52	58	56	55	53	53	52	51	50
23	48	47	47	45	48	47	-	-	54	50	52	52	55	52	54	51	58	56	57	54	52	50	51	50
24	48	47	46	46	48	47	-	-	54	51	53	50	55	51	55	52	57	55	57	55	51	50	51	50
25	48	46	47	45	47	47	-	-	54	52	54	50	54	50	56	52	57	56	56	55	-	-	52	51
26	47	45	47	44	49	47	-	-	55	52	54	51	-	50	56	52	58	56	55	53	-	-	52	50
27	-	-	46	46	51	49	-	-	55	52	54	51	-	-	56	53	58	56	54	53	-	-	51	49
28	-	-	49	46	50	50	-	-	54	50	54	51	-	-	55	52	57	-	54	53	-	-	49	48
29	47	46	-	-	50	48	-	-	50	50	53	52	-	-	55	53	57	55	54	52	-	-	49	49
30	48	46			46	46	-	-	52	48	54	51	-	-	55	53	57	55	54	53	-	-	-	47
31	-	-			47	46			-	50			-	-	55	52			55	52			-	-
Av.	48.1	46.9	47.0	45.4	48.2	46.8	51.0	48.7	53.5	50.6	53.8	51.2	54.7	51.0	54.9	51.4	56.4	54.3	55.4	53.7	53.4	52.0	50.6	49.4

TABLE 7

Daily Maximum and Minimum Water Temperatures, Sacramento River at Balls Ferry

Thermograph located at Balls Ferry Rack, six miles east, south, east of Anderson, Shasta County, California
Sec. 34, T. 30 N., R. 3 W., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1947

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	49	48	-	-	49	48	56	52	56	51	54	51	57	52	57	53	58	55	59	57	58	56	55	53
2	50	48	-	-	51	48	54	51	56	51	57	52	56	52	57	53	59	55	60	57	57	55	53	52
3	50	48	49	48	49	48	54	49	55	51	56	52	56	52	57	53	59	56	62	58	58	55	54	53
4	49	48	50	48	51	48	53	49	56	51	55	51	56	51	58	53	59	55	61	58	58	56	53	52
5	48	47	49	48	50	47	52	51	55	51	57	52	56	52	58	53	60	55	60	58	56	54	53	51
6	49	46	48	48	50	48	55	50	55	51	57	54	57	52	58	53	60	56	60	57	56	54	53	51
7	49	48	47	47	49	48	52	51	55	51	54	53	57	52	57	53	60	57	58	56	57	55	52	51
8	49	48	47	47	49	47	51	49	55	51	55	53	56	51	57	53	59	-	58	56	57	55	53	51
9	49	48	47	46	49	48	54	49	55	50	58	54	57	52	57	53	59	56	57	57	56	54	52	51
10	49	47	47	46	50	50	57	51	54	50	58	54	56	52	57	53	59	56	57	57	57	55	52	50
11	49	47	49	47	52	49	57	52	-	50	57	56	56	52	57	53	59	55	59	55	56	55	52	51
12	49	48	52	49	53	49	58	52	56	52	57	53	57	52	57	53	59	55	59	57	55	54	52	50
13	48	47	51	49	54	49	58	53	54	50	58	53	57	52	57	53	61	56	60	57	55	55	52	51
14	48	46	49	48	55	50	60	54	55	50	58	53	57	52	57	53	61	57	59	58	55	54	52	51
15	47	46	49	48	55	51	60	55	56	50	57	53	57	53	58	54	60	56	58	57	55	55	52	51
16	48	46	51	49	55	50	59	55	56	51	58	53	57	52	58	54	61	57	60	57	56	54	51	50
17	48	48	51	47	56	52	57	54	56	52	58	51	57	52	58	54	61	57	59	57	56	55	52	51
18	48	48	50	48	54	53	57	52	56	51	58	53	57	52	58	54	60	57	60	57	56	54	51	50
19	48	47	52	49	56	52	57	53	57	-	58	54	57	52	58	54	61	57	60	57	55	53	51	51
20	48	47	51	48	57	52	56	52	56	52	56	53	57	52	57	55	60	57	59	58	55	53	51	51
21	48	47	50	48	55	52	55	51	56	51	57	52	57	53	56	53	60	57	59	57	54	53	51	51
22	49	47	52	48	53	52	55	51	56	51	57	52	57	53	57	53	60	57	58	56	53	52	51	50
23	49	47	52	49	53	49	55	51	56	51	62	52	57	52	58	54	60	56	59	56	54	52	51	50
24	49	48	53	49	53	49	55	51	55	52	62	52	57	52	58	54	59	56	60	57	55	53	51	50
25	49	47	52	49	54	50	55	51	56	51	62	52	56	53	58	54	58	56	60	57	55	53	50	50
26	51	48	51	49	55	49	55	51	54	51	62	53	56	53	58	54	59	55	59	57	55	54	51	50
27	48	46	50	48	52	51	56	52	53	51	61	52	56	53	58	54	60	56	59	58	55	54	50	50
28	47	42	51	48	52	50	53	52	55	50	61	52	57	53	57	54	59	56	58	57	55	54	50	50
29	47	41	-	-	53	50	55	51	54	51	61	51	57	53	57	55	60	57	57	57	56	54	50	48
30	47	43			53	50	55	51	53	52	62	51	57	53	58	54	60	57	58	56	55	54	49	48
31	47	44			-	51			53	51			57	53	58	54			59	57			49	49
Av.	48.5	46.6	50.1	48.0	52.6	49.7	55.5	49.8	55.2	50.9	58.1	52.5	56.7	52.3	57.5	53.5	59.7	56.1	59.0	57.3	55.7	54.1	51.7	50.8

TABLE 8

Daily Maximum and Minimum Water Temperatures, Sacramento River at Balls Ferry

Thermograph located at Balls Ferry Rack, six miles east, south, east of Anderson, Shasta County, California
Sec. 34, T. 30 N., R. 3 W., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1948

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	-	-	-	-	51	48	56	51	51	48	55	50	57	52	55	51	55	52	57	53	55	55	53	51
2	-	-	48	-	51	48	53	49	52	49	55	50	56	52	55	51	55	52	-	-	55	54	53	52
3	-	-	48	46	50	47	50	48	51	49	53	51	56	52	55	51	55	52	-	-	56	54	52	51
4	-	-	47	46	50	46	49	47	52	48	53	50	55	51	55	51	56	52	56	-	55	53	51	50
5	51	-	47	46	49	47	50	48	53	49	52	51	53	51	55	51	56	52	-	-	56	53	51	50
6	52	51	48	46	50	46	50	47	52	49	54	50	55	50	55	51	56	52	-	-	56	54	51	51
7	53	52	48	46	51	47	49	47	51	48	55	51	55	51	55	51	57	53	-	-	55	53	51	50
8	52	49	47	46	48	47	49	47	51	48	55	51	55	51	55	51	55	53	-	-	54	52	51	49
9	49	48	46	45	51	47	49	47	51	48	55	51	56	51	55	51	55	52	-	-	56	53	51	50
10	49	48	47	45	50	47	53	47	-	48	53	51	57	52	55	51	56	53	-	-	56	54	51	50
11	49	47	47	45	50	47	-	50	-	-	55	51	57	52	55	51	56	53	54	-	55	54	51	51
12	49	47	48	45	50	48	53	-	-	-	55	51	56	52	55	51	57	53	57	54	55	53	51	49
13	50	48	47	46	48	47	50	49	-	-	55	51	57	52	55	51	57	53	56	54	55	53	50	48
14	49	48	48	46	48	46	51	49	-	-	55	51	57	52	55	51	57	53	58	55	54	53	49	48
15	50	48	48	47	49	46	51	50	-	-	54	51	57	52	55	51	57	53	58	54	55	53	49	47
16	50	48	51	47	48	46	51	50	-	-	54	50	56	52	55	51	54	53	57	53	55	53	49	48
17	50	48	50	48	51	46	52	49	54	-	53	50	56	52	55	51	54	53	56	53	53	52	50	49
18	50	48	50	48	-	48	53	48	52	50	54	50	57	52	55	51	57	53	57	53	54	52	50	48
19	50	48	50	47	-	-	54	49	50	49	55	50	57	52	55	52	57	53	57	54	54	53	50	48
20	49	47	50	47	-	-	54	50	51	49	57	52	57	52	55	51	57	53	57	54	53	52	50	49
21	49	47	50	49	-	-	52	48	54	49	57	52	56	52	54	51	57	53	57	54	54	52	49	48
22	50	48	51	49	50	-	51	48	55	50	55	51	55	51	53	52	57	54	56	54	55	53	48	47
23	51	48	50	47	49	47	51	48	56	51	56	51	55	51	55	52	57	53	57	54	55	52	48	46
24	51	48	50	47	48	46	51	48	56	52	56	51	55	50	55	52	57	53	57	55	54	53	48	47
25	49	48	51	47	49	45	52	48	56	52	56	51	55	51	55	52	55	52	57	54	53	51	48	47
26	48	46	51	48	51	47	51	48	55	52	56	51	55	51	55	52	56	53	56	54	53	51	48	47
27	49	46	50	48	53	49	49	49	52	51	56	51	55	51	55	52	57	53	55	53	53	50	49	48
28	-	47	50	48	51	50	50	48	50	49	57	52	55	51	54	52	57	53	55	53	52	51	50	48
29	-	-	51	47	54	50	48	47	50	49	57	53	55	51	55	52	55	53	54	54	53	51	48	47
30	-	-			55	50	51	47	52	49	56	53	55	51	55	52	56	52	55	53	53	52	48	46
31	-	-			55	50			54	50			55	51	55	52			55	54			48	47
Av.	49.5	47.9	48.8	46.3	50.3	47.3	51.0	48.3	52.5	49.4	54.9	50.9	55.7	51.4	54.9	51.3	55.9	52.4	56.3	53.8	54.4	52.6	49.9	48.6

TABLE 9

Daily Maximum and Minimum Water Temperatures, Sacramento River at Squaw Hill
Thermograph located two miles west of Vina, Tehama County, California
Sec. 28, T. 24 N., R.2 W., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1945 and 1946

	1945												1946									
	Aug.		Sept.		Oct.		Nov.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
Date	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	63	-	63	57	62	57	-	-	-	-	64	58	65	58	62	56	61	57	59	-	54	51	50	49
2	63	57	64	57	62	58	-	-	-	-	64	58	65	-	63	57	60	57	58	55	53	51	51	49
3	63	57	63	57	62	58	-	-	-	-	64	59	64	59	64	58	60	55	58	55	54	50	-	-
4	62	52	63	57	61	59	-	-	-	-	63	59	64	58	64	58	61	55	59	55	53	50	-	-
5	63	57	63	58	63	58	-	-	-	-	62	57	64	59	64	58	60	56	58	55	52	49	-	-
6	63	58	63	58	63	59	54	52	-	-	61	56	64	59	62	57	60	56	59	56	52	50	-	-
7	63	57	63	58	64	60	52	49	-	-	61	56	64	58	62	56	61	56	58	55	53	51	-	-
8	63	57	63	58	65	61	52	50	-	-	61	56	64	58	62	56	62	58	58	55	51	49	-	-
9	63	57	64	58	63	61	51	51	-	-	60	56	64	59	62	56	62	57	59	55	52	49	50	49
10	64	57	64	59	62	60	54	51	-	-	60	55	64	58	63	57	61	56	60	57	52	50	50	47
11	63	58	64	59	62	59	54	51	-	-	61	55	64	58	63	57	60	56	60	56	53	50	49	48
12	63	57	64	60	63	60	53	52	-	-	61	55	64	58	63	57	60	56	60	56	52	49	48	47
13	62	56	64	60	63	58	56	51	60	-	62	56	64	59	63	57	60	56	60	55	53	50	48	47
14	62	56	64	59	64	60	53	51	60	55	62	56	62	57	62	56	60	56	60	56	54	52	48	47
15	62	56	64	59	63	60	53	51	60	54	62	56	62	56	62	56	60	56	56	55	54	50	48	47
16	62	58	63	60	62	59	52	51	61	54	63	57	62	56	62	56	60	56	56	53	52	51	50	47
17	63	52	65	60	62	59	53	51	62	55	62	58	62	56	62	56	60	56	56	53	54	51	-	-
18	60	57	66	61	62	58	54	50	63	57	64	57	63	57	62	57	61	57	57	54	52	52	-	-
19	61	56	63	60	62	58	55	53	64	58	64	58	65	57	63	57	62	58	56	53	54	52	-	-
20	64	57	61	58	62	58	54	52	63	58	64	58	65	58	63	56	62	59	57	54	50	49	-	-
21	64	58	61	57	60	58	53	50	58	56	63	58	65	59	63	57	64	59	57	56	48	47	-	-
22	64	57	60	56	57	56	53	51	56	53	61	57	65	59	62	57	64	61	56	50	51	48	-	48
23	63	57	61	56	57	53	53	51	56	51	60	56	64	59	61	56	62	61	57	53	52	50	49	48
24	63	57	62	57	57	53	53	52	58	52	62	56	64	59	63	57	62	59	58	54	50	48	48	47
25	62	57	62	58	57	53	53	52	56	50	62	56	59	58	63	58	63	59	59	55	50	48	48	47
26	62	57	60	57	58	54	53	52	57	53	62	57	58	55	64	58	62	59	58	56	51	49	48	47
27	61	56	59	56	59	55	52	50	59	53	62	57	63	56	63	58	63	59	56	52	51	49	48	47
28	61	56	60	56	58	57	-	-	61	55	61	57	64	57	61	57	63	59	56	54	51	49	47	45
29	61	57	60	55	57	56	-	-	61	56	61	57	63	58	61	56	63	59	53	49	52	49	47	45
30	63	57	61	56	-	56	-	-	61	56	63	57	62	57	62	57	63	59	53	50	51	49	46	45
31	63	57			57	56			62	56			62	57	62	57			53	50			-	-
Av.	62.5	56.6	62.6	57.9	61.0	57.6	53.2	51.1	59.8	54.5	62.1	56.8	63.3	57.7	62.5	56.8	61.4	57.4	57.4	54.0	52.0	49.7	48.5	47.1

TABLE 10

Daily Maximum and Minimum Water Temperatures, Sacramento River at Squaw Hill
Thermograph located two miles west of Vina, Tehama County, California
Sec. 28, T. 24 N., R. 2 W., Mt. Diablo B. & M.
Temperature, in degrees Fahrenheit, 1947

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	47	43	47	43	-	-	56	50	63	58	-	-	64	58	64	59	64	57	62	58	57	52	54	50
2	46	44	48	44	-	-	54	51	64	59	-	-	63	59	64	59	65	57	62	57	55	51	52	48
3	46	43	50	45	-	-	52	46	63	57	-	-	63	58	64	59	65	60	64	60	55	50	51	47
4	46	42	49	-	-	-	55	46	63	58	60	57	63	58	65	59	65	59	64	61	55	51	51	48
5	44	43	49	46	-	-	54	49	63	58	60	55	63	58	65	60	65	61	63	62	55	50	51	47
6	46	44	46	45	-	-	56	49	61	58	58	55	64	59	65	60	65	61	61	57	54	50	50	46
7	46	44	47	45	-	-	54	50	62	57	58	56	64	59	65	60	65	62	60	57	54	49	49	46
8	45	43	46	45	-	-	53	50	60	54	59	55	64	59	65	60	64	60	58	54	55	50	49	45
9	44	43	46	45	-	-	55	48	59	53	60	53	64	59	64	60	63	59	57	54	53	49	48	44
10	44	43	48	46	-	-	58	50	59	52	63	58	63	59	64	59	63	60	56	54	53	49	48	44
11	45	44	48	46	-	-	60	53	61	54	63	58	64	59	64	57	64	60	58	53	53	49	49	45
12	44	43	-	-	-	-	62	55	59	54	64	59	64	59	64	59	64	60	60	54	53	50	49	45
13	44	43	-	-	-	-	64	56	58	52	64	60	65	60	64	59	64	60	60	55	53	49	49	45
14	44	41	-	-	-	-	65	58	-	52	65	60	65	60	65	60	65	61	61	56	53	48	49	45
15	45	42	-	-	-	-	66	59	62	-	65	61	65	60	65	60	66	60	59	57	50	49	49	45
16	45	42	-	-	-	-	65	61	63	58	60	60	64	59	66	61	64	61	59	56	54	49	48	45
17	45	41	-	-	58	-	63	59	64	59	63	59	65	59	66	61	63	60	61	55	53	49	49	46
18	45	42	-	-	58	53	62	57	64	60	67	60	65	59	66	61	61	56	61	55	54	49	49	45
19	46	43	-	-	58	52	62	59	65	60	66	62	65	59	65	61	61	55	61	55	52	48	-	47
20	47	42	52	49	60	53	61	57	65	60	63	60	65	60	64	61	62	57	59	57	52	47	49	47
21	47	44	53	49	59	54	60	55	65	60	63	59	65	60	61	59	64	60	59	54	51	47	49	46
22	47	43	52	48	57	54	59	55	64	60	65	61	64	59	62	55	64	62	58	53	50	46	49	47
23	47	44	53	50	-	51	60	53	64	60	65	59	64	59	64	56	65	61	58	54	50	45	50	46
24	48	45	54	50	-	-	61	55	63	61	65	60	64	59	64	58	65	60	59	53	50	46	48	45
25	47	45	55	51	55	-	62	55	64	60	65	60	64	59	63	59	64	61	60	54	51	46	49	45
26	47	47	52	51	50	50	61	55	63	60	65	60	64	59	63	56	65	61	60	55	53	47	49	45
27	48	46	52	50	55	52	62	56	58	56	64	61	65	60	62	58	64	58	58	55	54	49	48	45
28	46	44	52	48	54	52	59	55	60	53	63	59	64	60	62	58	63	58	55	53	54	50	47	45
29	44	42	-	-	54	51	-	-	62	55	63	58	65	59	61	59	63	57	56	53	55	51	48	41
30	44	42			55	51	-	-	61	58	-	58	64	60	62	55	63	59	57	54	54	51	47	44
31	46	41			-	49	62	58	57	53			64	60	62	58			58	52			46	42
Av.	45.7	43.2	49.9	47.1	56.7	51.9	59.4	53.8	62.0	57.0	62.9	58.6	64.1	59.1	63.8	58.9	63.9	59.4	56.0	55.3	53.1	48.8	50.4	45.5

TABLE 11

Daily Maximum and Minimum Water Temperatures, Sacramento River at Squaw Hill
Thermograph located two miles west of Vina, Tehama County, California
Sec. 28, T. 24 N., R. 2 W., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1948

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	46	43	47	43	50	45	58	48	-	-	62	53	66	61	63	57	61	55	60	56	54	51	50	46
2	46	43	46	42	50	46	50	49	-	-	63	55	65	61	63	57	61	54	59	54	55	53	51	47
3	44	40	45	41	50	45	51	45	-	-	60	56	64	57	62	56	61	55	59	58	55	54	51	47
4	50	44	41	41	50	45	51	44	-	-	58	53	62	56	62	55	61	56	59	56	54	50	49	46
5	50	48	44	40	49	45	51	43	-	-	58	52	58	55	62	56	61	55	58	56	54	49	47	44
6	51	47	45	41	49	44	51	43	54	-	60	53	59	55	62	56	61	56	59	53	55	50	50	45
7	52	49	46	42	50	44	52	43	53	48	62	54	62	55	62	57	61	57	60	55	53	49	50	47
8	51	46	45	43	48	45	48	45	52	46	63	57	63	56	62	55	61	56	61	56	52	47	51	49
9	48	44	45	42	50	44	50	47	52	46	63	58	64	56	62	54	61	56	60	56	53	47	50	47
10	47	43	45	40	50	45	54	45	56	46	61	56	65	60	61	54	61	56	60	54	55	50	51	47
11	47	43	45	40	50	46	55	46	58	51	61	54	64	60	61	54	61	56	59	55	55	51	51	47
12	47	42	45	41	49	46	56	46	57	52	62	55	65	60	61	53	61	56	60	57	55	50	52	49
13	47	42	45	41	49	45	-	46	58	51	63	55	66	60	61	55	62	57	58	55	54	50	47	44
14	48	42	47	42	48	45	-	-	58	51	63	55	66	61	62	55	60	57	58	56	52	49	46	42
15	47	43	47	45	47	43	-	-	61	51	62	55	67	61	62	55	61	56	59	55	53	49	46	43
16	48	43	50	44	46	43	-	-	63	55	62	56	67	61	61	55	57	56	59	55	53	50	46	43
17	48	43	49	45	48	43	-	-	60	56	63	55	66	61	61	54	57	55	59	53	53	48	46	43
18	49	45	50	47	48	43	-	-	56	53	62	54	66	61	61	56	57	54	58	52	52	48	47	43
19	48	43	51	45	48	44	56	-	54	51	63	56	65	60	61	55	61	53	58	52	52	48	46	43
20	47	42	50	46	48	42	57	49	55	50	63	59	66	60	62	57	60	54	58	52	52	48	46	43
21	47	42	50	46	51	45	54	50	58	50	65	59	66	61	61	57	60	56	58	55	52	47	46	43
22	49	43	52	47	49	47	51	47	62	52	64	59	66	61	58	56	59	55	58	53	52	47	45	42
23	50	45	49	45	49	45	52	46	64	54	64	58	63	60	60	54	59	53	58	52	53	48	43	40
24	51	46	49	44	47	45	53	46	64	56	64	58	62	54	61	-	58	52	58	53	54	50	43	39
25	49	46	50	45	-	-	54	47	65	57	65	58	62	57	61	55	57	51	58	54	53	49	44	40
26	46	43	51	-	51	-	-	47	65	57	65	59	62	56	61	56	58	51	57	49	51	47	44	42
27	45	41	50	46	53	44	-	-	62	56	65	59	62	57	61	56	59	53	55	53	51	46	45	44
28	45	41	50	45	50	45	-	-	56	54	65	59	62	57	62	56	60	53	55	50	49	46	46	42
29	45	42	50	45	54	47	-	-	55	51	66	61	63	57	62	55	60	55	54	50	50	46	45	43
30	45	41			54	46	-	-	55	51	67	62	63	57	61	55	60	54	54	49	50	46	45	42
31	46	41			57	47			56	52			63	57	61	55			53	50			44	42
Av.	45.5	43.4	47.5	43.3	49.7	44.8	53.3	46.1	58.0	51.6	62.8	56.4	63.9	58.4	61.5	55.3	59.9	54.7	58.0	53.7	52.9	48.8	47.2	44.0

TABLE 12

Daily Water Temperatures, Sacramento River at Ord's Ferry
Temperatures taken one-half mile east of Ordbend, Glenn County, California
Sec. 32, T. 21 N., R. 1 W., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1948

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	3 PM	10AM	3 PM	10AM	3 PM	10AM	3 PM	10AM	3 PM	10AM	3 PM	10AM					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	-	-	-	-	-	-	-	-	-	-	-	-					-	-	61	-	55	55	50	48
2	-	-	-	-	-	51	-	53	-	-	-	58					-	-	61	60	58	-	50	49
3	-	-	-	46	52	-	55	-	-	-	61	-					-	-	61	60	-	-	50	50
4	-	-	46	-	-	-	-	-	-	-	-	60					-	-	61	61	58	56	50	49
5	-	-	-	-	-	50	-	-	-	-	60	-					-	-	61	60	57	57	-	-
6	-	-	-	44	50	-	-	50	-	-	-	-					-	-	60	59	56	55	-	-
7	-	-	45	-	-	-	51	-	-	-	-	-					-	-	60	59	55	53	-	-
8	-	-	-	-	-	-	-	-	-	-	-	58					-	-	60	60	52	51	-	-
9	-	-	-	-	-	49	-	56	-	-	61	-					-	-	60	60	-	-	-	-
10	-	-	-	46	51	-	50	-	-	-	-	62					-	-	60	60	-	-	-	-
11	-	-	46	-	-	-	-	-	-	53	61	-					-	-	60	60	-	-	-	-
12	-	-	-	-	-	50	-	-	55	-	-	-					-	-	60	59	-	-	-	-
13	-	-	-	44	52	-	-	-	-	-	-	-					-	-	59	59	-	-	50	47
14	-	-	46	-	-	-	-	-	-	55	-	-					-	-	59	59	-	-	48	45
15	-	-	-	-	-	-	-	-	55	-	-	61					-	-	60	59	-	-	48	45
16	-	-	-	-	-	48	-	-	-	-	62	-					-	-	-	-	-	-	47	45
17	-	-	-	49	48	-	-	-	-	-	-	-					61	-	59	57	-	-	49	45
18	-	-	-	-	-	-	-	-	-	56	-	-					61	58	59	58	-	-	49	45
19	-	-	-	-	-	48	-	-	55	-	-	-					62	58	59	58	-	-	48	45
20	-	-	-	51	52	-	-	-	-	-	-	-					64	59	58	58	-	-	48	46
21	-	-	52	-	-	-	-	-	-	53	-	-					64	60	58	58	-	-	49	45
22	-	-	-	-	-	-	-	-	54	-	-	-					63	60	58	58	53	-	47	43
23	-	-	-	-	-	-	-	-	-	-	-	-					63	59	58	58	53	51	45	42
24	-	-	-	-	-	-	-	-	-	-	-	-					-	58	58	58	54	52	44	40
25	-	-	-	48	-	51	-	-	-	62	-	-					60	58	58	57	54	52	44	42
26	-	-	51	-	52	-	-	-	64	-	-	-					57	57	58	57	52	50	44	43
27	-	-	-	52	-	-	-	-	-	-	-	-					58	57	58	56	50	48	46	44
28	-	45	51	-	-	-	-	-	-	64	-	-					59	58	56	54	49	48	48	45
29	47	-			-	-	-	-	59	-	-	-					60	59	54	54	50	47	49	46
30	-	-			-	48	-	-	-	-	-	-					60	60	54	53	49	48	48	45
31	-	-			49	-			-	-									53	53			46	45
Av.	47	45	48.1	47.2	50.7	49.4	52	53	57	57.2	61	59.8					60.9	58.5	58.7	58.0	53.4	51.6	47.6	45.1

From January through June, readings were made with a hand thermometer; from September through December, thermograph recordings were used.

TABLE 13

Daily Maximum and Minimum Water Temperatures, Sacramento River at Knight's Landing
Thermograph located at highway bridge, Knight's Landing, Yolo County, California
Sec. 14, T. 11 N., R. 2 E., Mt. Diablo B. & M.
Temperature, in degrees Fahrenheit, 1947

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	49	-	-	-	55	55	58	56	65	62	69	67	71	67	75	71	73	69	71	67	62	59	58	55
2	49	41	-	-	55	54	58	57	67	63	69	65	71	67	75	72	73	69	69	66	61	58	57	55
3	49	42	-	-	44	43	58	56	69	65	69	67	70	67	75	72	74	69	70	66	60	57	58	54
4	49	37	-	-	54	51	58	54	69	66	70	66	70	66	75	72	73	69	70	67	58	56	57	55
5	49	46	53	53	54	52	57	53	68	65	69	68	70	68	74	71	73	69	72	68	59	56	57	54
6	48	40	53	52	53	49	56	54	68	66	70	68	71	69	75	71	74	70	70	66	59	56	57	53
7	48	46	53	51	52	50	58	51	68	65	69	67	72	69	75	72	73	70	69	66	58	55	56	52
8	48	39	53	52	53	51	59	55	68	64	70	68	72	69	75	71	74	70	66	63	59	55	55	49
9	49	44	53	51	54	53	59	57	67	64	70	68	72	68	75	72	73	69	66	64	58	55	54	46
10	49	47	51	50	53	52	59	56	65	64	70	69	72	69	75	71	73	69	64	62	57	54	54	50
11	49	47	52	50	54	52	59	57	65	62	70	67	73	70	75	71	73	69	63	60	57	54	53	50
12	49	47	51	50	55	52	60	58	65	62	69	67	73	70	74	71	73	69	62	59	57	55	53	46
13	48	43	52	51	55	52	62	58	65	61	71	68	74	70	74	70	74	70	62	59	58	55	54	48
14	47	41	53	51	56	52	62	59	64	61	72	70	74	71	73	70	75	71	63	60	57	54	53	48
15	48	44	53	52	57	54	64	60	65	62	74	71	74	72	71	70	75	71	63	61	57	55	54	50
16	47	37	54	51	58	55	66	63	66	64	72	71	75	71	74	71	74	71	64	63	57	55	54	51
17	47	35	53	50	59	56	67	64	67	65	72	70	75	72	74	71	73	69	64	61	57	55	53	52
18	47	36	53	50	59	59	67	64	68	67	72	70	75	72	75	71	71	67	65	61	57	54	54	52
19	48	38	53	51	59	57	67	64	69	62	73	70	75	72	74	70	70	67	64	61	57	54	53	52
20	48	40	53	51	60	56	67	64	72	69	73	71	76	72	74	71	69	66	64	62	58	54	53	51
21	48	44	55	51	61	49	67	63	73	70	71	68	76	72	73	70	69	66	64	62	57	53	53	52
22	49	43	55	52	61	59	66	62	74	71	70	67	75	72	73	70	70	66	63	60	57	54	53	52
23	50	46	56	52	62	58	65	62	73	71	69	66	75	71	74	70	71	67	64	61	55	48	54	52
24	50	47	56	53	61	58	65	62	73	70	69	66	74	70	73	70	72	69	63	59	54	47	55	53
25	51	50	56	52	60	57	64	62	72	70	70	67	74	70	74	69	72	68	63	59	54	50	55	54
26	51	48	57	55	59	56	65	62	73	70	68	65	74	71	73	69	73	69	64	60	54	50	55	53
27	52	49	56	55	59	58	65	62	71	68	70	67	75	71	72	68	73	69	64	61	55	51	54	53
28	52	44	56	54	59	57	66	62	71	67	70	67	75	71	71	68	73	69	63	62	55	53	54	52
29	52	45			60	58	65	61	71	68	71	67	74	71	72	68	73	68	63	60	56	53	54	51
30	52	49			60	58	65	-	71	69	70	67	75	-	73	69	71	67	62	60	58	51	53	50
31	52	48			60	56			71	68					72	70			61	58			52	47
Av.	49.1	43.6	53.7	51.7	56.8	54.2	62.5	57.3	68.8	65.8	70.4	67.8	73.4	70.0	73.7	70.3	72.5	68.7	64.9	62.1	57.2	54.5	54.4	51.3

TABLE 14

Daily Maximum and Minimum Water Temperatures, Sacramento River at Knight's Landing
Thermograph located at highway bridge, Knight's Landing, Yolo County, California
Sec. 14, T. 11 N., R. 2 E., Mt. Diablo B. & M.
Temperature, in degrees Fahrenheit, 1948

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	51	50	50	46	53	49	55	52	51	48	56	53	69	66	74	71	74	70	65	61	57	55	50	46
2	50	49	50	38	53	50	55	54	51	49	58	55	69	66	75	71	75	71	66	63	58	56	50	47
3	51	50	50	41	53	50	56	53	52	51	61	58	69	66	74	71	75	71	65	62	59	56	50	47
4	51	50	49	46	53	49	54	52	54	52	62	59	70	66	74	71	75	72	66	64	58	55	50	45
5	50	47	49	47	53	49	54	51	54	52	63	60	71	67	75	70	75	71	64	62	58	54	50	48
6	52	50	48	45	53	50	53	49	55	52	63	59	71	68	74	70	75	71	64	60	58	51	50	48
7	55	54	46	42	53	49	51	48	56	54	62	59	71	68	75	71	75	71	70	60	54	51	49	47
8	56	54	47	44	53	52	51	49	58	55	62	59	72	68	74	71	75	71	65	61	53	50	48	46
9	56	54	46	45	52	50	51	49	57	54	64	61	72	68	74	71	75	71	67	62	53	48	50	47
10	55	53	47	44	52	49	51	49	56	53	66	63	72	70	74	71	75	71	67	64	53	48	49	47
11	55	52	48	44	53	49	51	49	56	52	66	63	75	71	74	71	76	72	66	64	52	47	50	47
12	53	50	47	40	52	50	52	49	56	53	66	63	75	71	74	71	77	73	65	61	53	49	50	48
13	53	49	47	38	53	51	52	50	56	54	66	62	75	71	74	71	76	72	65	61	54	49	50	48
14	52	47	47	43	52	50	52	50	58	55	66	63	75	71	74	71	75	71	65	64	55	51	50	47
15	51	46	47	45	52	48	53	51	58	55	66	64	75	71	75	71	76	72	64	61	53	51	51	49
16	51	47	49	45	50	49	53	51	59	55	67	64	75	72	75	72	74	71	65	61	55	51	49	46
17	51	47	49	47	50	48	53	51	58	56	67	64	76	71	74	70	72	70	64	60	54	51	48	45
18	51	47	50	48	51	47	55	52	58	57	67	64	76	72	74	70	71	68	64	60	53	49	48	45
19	52	47	51	48	50	47	55	52	60	58	67	64	76	72	74	72	71	68	64	60	52	50	49	47
20	52	48	52	48	51	48	55	52	58	55	67	64	74	71	74	71	72	68	64	59	52	49	48	46
21	51	47	52	50	51	48	56	54	56	53	68	66	75	71	74	72	73	69	63	59	51	48	48	46
22	51	47	52	50	52	50	56	54	55	53	68	66	75	70	75	71	72	68	63	60	52	48	49	38
23	51	47	52	50	51	49	55	52	59	55	67	62	75	71	75	71	71	68	63	59	52	47	47	40
24	52	48	51	48	51	52	55	51	61	59	65	62	75	72	74	71	71	68	63	60	52	49	46	-
25	54	50	51	47	51	46	54	51	62	60	67	65	75	71	73	70	70	64	64	59	53	49	46	43
26	52	50	51	47	48	45	55	53	62	61	68	66	75	72	73	69	65	61	63	58	52	48	45	42
27	52	48	52	50	48	45	55	53	64	62	69	67	75	71	74	71	64	60	61	58	52	49	45	43
28	50	41	52	51	50	48	54	53	64	61	69	67	74	71	75	71	64	60	61	56	52	43	45	42
29	50	39	53	49	51	49	55	51	62	60	69	66	74	72	75	71	65	61	60	56	51	47	45	45
30	49	42			52	49	51	48	61	58	69	66	74	71	75	72	65	61	60	55	50	47	46	43
31	49	44			53	50			58	54			74	71	75	72			58	56			47	45
Av.	51.9	48.1	49.4	44.3	51.9	48.8	53.6	51.1	57.5	55.0	65.4	62.4	73.3	69.9	74.3	71.0	72.3	68.5	64.0	60.2	53.7	49.9	48.3	44.9

TABLE 15

Daily Morning Water Temperatures, Sacramento River at Sacramento*

Hand thermometer readings taken at water works intake, one-half mile below mouth of American River

Sec. 35, T. 8N., R. 4E., Mt. Diablo B.& M.

Temperature, in degrees Fahrenheit, 1939

Date	Jan. 8:30A.M.	Feb. 8:30 A.M.	Mar. 8:30 A.M.	Apr. 8:30 A.M.	May 8:30 A.M.	June 8:30 A.M.	July 8:30 A.M.	Aug. 8:30 A.M.	Sept. 8:30 A.M.	Oct. 8:30 A.M.	Nov. 8:30 A.M.	Dec. 8:30A.M
1	-	45	47	54	60	70	75	75	71	-	60	50
2	-	45	47	-	59	71	-	76	71	68	60	50
3	46	44	47	55	60	70	-	76	-	66	60	-
4	46	44	47	55	61	-	-	76	-	65	59	49
5	46	-	-	55	61	68	72	76	72	65	-	49
6	46	44	47	55	61	66	73	-	72	64	57	48
7	46	44	47	56	-	67	75	75	72	63	-	48
8	+	44	48	56	63	71	77	75	72	-	55	48
9	45	44	48	-	63	72	-	75	-	64	55	49
10	45	43	47	56	63	73	79	75	-	64	55	-
11	45	43	46	56	63	-	79	75	73	64	-	52
12	45	-	-	56	63	74	79	74	72	64	-	52
13	45	43	48	56	64	73	79	-	68	66	54	52
14	45	43	50	55	-	72	77	76	67	66	54	52
15	-	44	51	55	65	70	77	77	67	-	54	51
16	45	44	51	-	-	68	-	77	68	65	54	51
17	45	45	52	57	64	68	79	78	-	65	54	-
18	45	45	52	58	63	-	79	79	69	64	53	48
19	45	-	-	59	63	72	77	78	70	64	-	48
20	45	47	54	59	63	72	76	-	72	64	51	48
21	45	47	54	59	-	75	77	77	72	64	51	48
22	-	-	54	59	63	77	78	77	74	-	51	48
23	45	48	54	-	63	78	-	76	75	64	-	47
24	45	48	54	58	62	77	79	76	-	63	50	-
25	45	48	54	58	62	-	79	75	76	61	51	-
26	45	-	-	58	62	75	78	75	73	61	-	46
27	45	48	52	58	63	76	77	-	72	59	51	46
28	45	47	52	59	-	76	76	73	72	59	51	45
29	-		52	60	68	76	76	72	72	-	50	45
30	45		52	-	-	76	-	72	71	60	50	45
31	45		53		70		76	72		60		-
Av.	45.2	45.1	50.4	56.9	62.9	72.4	77.0	75.5	71.4	63.5	53.9	48.6

* These data are made available through the Division of Water and Sewers, City of Sacramento.

TABLE 16

Daily Morning Water Temperatures, Sacramento River at Sacramento*

Hand thermometer readings taken at water works intake, one-half mile below mouth of American River
Sec. 35, T. 8 N., R. 4 E., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1940

Date	Jan. 8:30 A.M.	Feb. 8:30 A.M.	Mar. 8:30 A.M.	Apr. 8:30 A.M.	May 8:30 A.M.	June 8:30 A.M.	July 8:30 A.M.	Aug. 8:30 A.M.	Sept. 8:30 A.M.	Oct. 8:30 A.M.	Nov. 8:30 A.M.	Dec. 8:30 AM.
1	51	50	50	50	58	62	75	75	-	68	58	47
2	51	50	50	50	59	-	76	75	-	66	59	48
3	51	50	-	50	59	63	76	76	72	64	-	48
4	51	-	50	50	57	64	-	-	71	64	57	48
5	50	51	50	51	-	65	78	77	71	64	-	48
6	50	50	51	52	57	67	78	77	71	-	55	48
7	-	50	52	-	-	67	-	77	71	64	55	-
8	50	50	53	54	58	67	77	77	-	64	55	48
9	50	50	54	54	59	-	77	77	-	64	55	48
10	50	50	-	54	60	69	77	77	71	64	-	48
11	50	-	54	54	60	70	76	-	71	64	-	46
12	50	50	54	57	-	70	75	79	71	65	53	45
13	50	50	53	57	60	71	75	79	72	-	52	43
14	-	49	53	-	61	72	-	78	72	65	52	-
15	46	49	52	57	61	72	75	77	-	66	53	43
16	46	49	52	57	61	-	73	75	71	66	53	45
17	45	48	-	57	61	72	73	75	71	65	-	48
18	45	-	54	58	61	72	72	-	71	66	53	49
19	45	48	54	59	-	72	72	75	71	66	52	49
20	44	48	54	59	63	72	72	75	70	-	51	49
21	-	48	55	-	63	72	-	75	70	66	-	-
22	44	-	56	59	63	72	74	75	-	65	50	50
23	44	48	56	59	63	-	75	75	70	64	49	50
24	44	48	-	57	63	73	77	73	70	63	-	-
25	45	-	56	56	63	73	77	-	70	62	47	50
26	47	49	55	56	-	73	77	73	70	62	47	50
27	48	50	50	54	63	75	76	-	70	-	47	49
28	-	50	50	-	62	75	-	73	69	59	47	-
29	48	50	50	54	61	74	75	73	-	59	47	48
30	49		50	57	-	-	75	74	68	59	47	48
31	49		-		62		75	74		58		-
Av.	47.9	49.4	52.6	55.1	60.7	70.2	75.3	75.6	70.6	63.3	51.9	47.7

* These data are made available through the Division of Water and Sewers, City of Sacramento.

TABLE 17

Daily Morning Water Temperatures, Sacramento River at Sacramento*

Hand thermometer readings taken at water works intake, one-half mile below mouth of American River

Sec. 35, T. 8N., R. 4E., Mt. Diablo B.& M.

Temperature, in degrees Fahrenheit, 19 41

Date	Jan. 8:30 A.M.	Feb. 8:30 A.M.	Mar. 8:30 A.M.	Apr. 8:30 A.M.	May 8:30 A.M.	June 8:30 A.M.	July 8:30 A.M.	Aug. 8:30 A.M.	Sept. 8:30 A.M.	Oct. 8:30 A.M.	Nov. 8:30 A.M.	Dec. 8:30A.M.
1	-	49	52	54	58	-	71	76	-	64	58	50
2	47	-	-	53	58	61	72	76	72	64	-	51
3	47	49	51	52	57	61	72	-	72	64	58	52
4	47	49	51	52	-	62	-	74	72	-	-	52
5	-	49	50	52	55	62	73	74	72	-	58	50
6	46	49	50	-	55	63	-	75	74	63	58	48
7	46	49	51	52	55	63	76	75	-	63	58	-
8	46	49	51	53	55	-	77	75	73	63	59	49
9	47	-	-	54	57	64	78	75	-	62	-	48
10	48	51	53	54	57	64	78	-	72	62	59	48
11	48	51	54	54	-	65	77	74	71	-	-	48
12	-	50	54	54	58	66	75	74	71	-	59	48
13	48	50	54	-	57	67	-	75	71	61	59	48
14	48	49	54	54	60	67	75	76	-	61	59	-
15	48	49	54	55	60	-	75	77	70	61	59	50
16	48	-	-	55	57	67	75	-	70	61	-	50
17	48	49	54	55	57	67	76	-	70	61	58	50
18	48	50	54	55	-	68	76	77	70	62	56	49
19	-	51	54	55	58	68	77	77	70	-	54	49
20	48	51	54	-	58	68	-	76	69	62	-	49
21	48	51	54	56	59	68	78	75	-	61	51	-
22	48	-	54	57	60	-	80	75	66	61	50	49
23	48	-	-	57	61	67	79	75	65	61	-	49
24	48	51	54	57	61	67	77	-	65	61	48	48
25	48	52	54	58	-	67	75	76	65	61	48	-
26	-	52	54	58	61	66	76	76	65	-	48	46
27	49	52	54	-	60	66	-	75	65	60	47	46
28	49	52	54	58	60	66	73	74	-	60	47	-
29	49		54	58	60	-	74	73	66	59	48	45
30	49		-	58	-	70	75	72	64	59	-	45
31	49		54		60		75	-		59		45
Av.	47.3	50.2	53.1	55.0	58.2	65.6	75.5	75.1	69.2	61.4	54.5	48.5

* These data are made available through the Division of Water and Sewers, City of Sacramento.

TABLE 18

Daily Morning Water Temperatures, Sacramento River at Sacramento *

Hand thermometer readings taken at water works intake, one-half mile below mouth of American River

Sec. 35, T. 8N., R. 4E., Mt. Diablo B.& M.

Temperature, in degrees Fahrenheit, 1942

Date	Jan. 8:30 A.M.	Feb. 8:30 A.M.	Mar. 8:30 A.M.	Apr. 8:30 A.M.	May 8:30 A.M.	June 8:30 A.M.	July 8:30 A.M.	Aug. 8:30 A.M.	Sept. 8:30 A.M.	Oct. 8:30 A.M.	Nov. 8:30 A.M.	Dec. 8:30A.M.
1	-	-	-	52	53	59	70	74	73	67	-	51
2	43	48	47	53	53	59	71	-	73	67	57	52
3	42	48	47	53	-	59	72	75	72	67	-	52
4	-	49	48	53	54	59	-	75	72	-	57	52
5	41	49	49	-	55	60	-	75	71	67	56	51
6	41	49	50	52	56	60	72	75	-	67	55	-
7	41	49	50	52	57	-	72	75	-	66	54	47
8	42	-	-	53	57	60	72	77	71	66	-	46
9	43	48	51	54	57	61	72	-	-	66	53	46
10	45	48	51	54	57	61	73	76	71	66	53	46
11	-	48	51	54	-	63	74	75	71	-	-	46
12	45	48	51	-	55	63	-	76	71	65	53	46
13	45	48	51	54	55	63	73	76	-	64	53	-
14	45	46	51	54	54	-	73	77	70	63	53	46
15	45	-	-	52	54	64	73	77	72	63	-	46
16	45	45	46	52	54	64	73	-	72	63	53	46
17	45	45	48	52	54	64	73	77	72	63	53	46
18	-	46	48	52	-	64	73	77	71	-	53	46
19	45	46	49	-	55	65	-	77	71	63	52	46
20	45	46	49	53	57	-	75	77	-	63	49	-
21	45	47	50	54	58	-	75	77	70	63	48	46
22	45	-	-	54	60	66	76	77	69	63	-	46
23	45	-	51	55	59	67	78	-	69	63	48	46
24	46	47	51	55	58	67	79	77	69	63	50	46
25	-	47	51	55	-	66	79	-	69	-	50	-
26	49	46	51	-	57	65	-	73	68	62	-	-
27	49	46	51	55	57	65	77	73	-	61	50	-
28	49	46	51	55	54	-	76	72	67	61	50	45
29	48		-	54	54	68	75	72	67	59	-	45
30	47		52	52	56	70	75	-	67	57	52	46
31	47		52		-		74	72		57		46
Av.	44.9	47.2	49.9	53.4	55.8	63.3	74.0	75.4	70.3	63.5	52.4	47.1

* These data are made available through the Division of Water and Sewers, City of Sacramento.

TABLE 19

Daily Morning Water Temperatures, Sacramento River at Sacramento*

Hand thermometer readings taken at water works intake, one-half mile below mouth of American River

Sec. 35, T. 8N., R 4E., Mt. Diablo B.& M.

Temperature, in degrees Fahrenheit, 19 43

Date	Jan. 8:30 A.M.	Feb. 8:30 A.M.	Mar. 8:30 A.M.	Apr. 8:30 A.M.	May 8:30 A.M.	June 8:30 A.M.	July 8:30 A.M.	Aug. 8:30 A.M.	Sept. 8:30 A.M.	Oct. 8:30 A.M.	Nov. 8:30 A.M.	Dec. 8:30A.M.
1	-	47	48	54	54	61	70	-	73	70	57	50
2	46	47	48	54	-	59	71	78	73	70	-	50
3	-	47	49	54	57	57	72	78	73	-	56	49
4	46	46	49	-	57	58	-	77	73	69	55	49
5	46	46	50	55	58	60	-	76	-	69	57	-
6	45	46	51	55	59	-	73	76	-	69	55	49
7	45	-	-	54	60	63	73	75	73	67	-	48
8	45	47	50	54	60	64	73	-	73	67	54	47
9	45	47	50	54	-	64	74	75	-	67	54	47
10	-	47	51	54	60	64	76	75	72	-	54	45
11	45	47	51	-	60	64	-	75	72	66	-	45
12	45	46	51	54	60	64	78	77	-	64	53	-
13	45	46	51	54	60	-	77	77	73	64	53	45
14	44	-	-	56	60	64	75	78	73	64	-	45
15	44	47	51	56	60	65	73	-	72	64	52	44
16	44	47	51	56	-	67	72	75	72	64	52	44
17	-	48	50	56	60	70	73	-	72	-	52	44
18	44	49	49	-	60	70	-	74	72	61	53	44
19	42	49	49	56	61	70	73	74	-	61	53	-
20	42	49	49	56	62	-	73	74	72	61	53	45
21	42	-	-	56	63	68	73	74	72	60	-	45
22	46	-	50	56	64	66	74	-	72	60	53	46
23	46	50	50	56	-	66	75	70	72	59	52	46
24	-	50	52	56	66	66	76	70	72	-	52	46
25	47	50	52	-	65	66	-	70	72	59	-	-
26	47	50	54	55	65	67	76	70	-	58	50	-
27	47	50	54	55	65	-	77	72	71	58	50	46
28	47	-	-	55	64	70	78	72	70	58	-	46
29	47		55	54	64	70	80	-	70	58	50	46
30	48		54	54	-	70	79	73	70	58	50	46
31	-		54		-		81	73		-		46
Av.	45.2	47.7	50.8	55.0	61.0	65.1	74.8	74.3	72.0	63.3	53.0	46.3

* These data are made available through the Division of Water and Sewers, City of Sacramento.

TABLE 20

Daily Morning Water Temperatures, Sacramento River at Sacramento *

Hand thermometer readings taken at water works intake, one-half mile below mouth of American River

Sec. 35, T. 8N., R 4E., Mt. Diablo B.& M.

Temperature, in degrees Fahrenheit, 1944

Date	Jan. 8:30 A.M.	Feb. 8:30 A.M.	Mar. 8:30 A.M.	Apr. 8:30 A.M.	May 8:30 A.M.	June 8:30 A.M.	July 8:30 A.M.	Aug. 8:30 A.M.	Sept. 8:30 A.M.	Oct. 8:30 A.M.	Nov. 8:30 A.M.	Dec. 8:30A.M.
1	-	46	48	55	57	61	73	73	72	66	60	48
2	-	47	48	-	58	60	-	72	72	65	60	48
3	46	47	48	56	58	58	74	72	-	64	59	-
4	45	48	48	55	58	-	-	74	-	64	59	47
5	45	48	-	52	58	60	73	74	72	64	-	47
6	45	-	48	53	58	63	74	-	72	64	56	46
7	45	49	48	54	-	64	74	75	72	-	-	46
8	45	49	50	54	56	65	74	75	73	63	54	46
9	-	49	51	-	56	64	-	74	-	63	54	46
10	45	49	53	54	56	64	74	74	-	-	54	-
11	45	49	54	54	56	-	74	75	75	63	-	45
12	45	49	-	53	56	65	74	76	75	63	-	45
13	45	-	54	53	56	65	75	-	73	63	50	45
14	45	47	52	53	-	65	75	75	72	-	50	45
15	45	47	50	53	56	63	78	73	71	63	50	44
16	-	47	49	-	-	62	-	72	70	63	49	44
17	45	47	49	54	55	62	77	72	-	63	49	-
18	45	47	49	53	54	-	77	72	67	63	49	45
19	45	46	-	53	55	65	77	72	66	63	-	45
20	45	-	52	53	57	66	77	-	66	62	48	46
21	45	46	52	52	-	66	77	73	64	-	48	46
22	45	-	51	52	59	66	77	73	64	62	48	46
23	-	46	52	-	59	67	-	73	66	62	-	46
24	45	46	52	54	59	68	75	73	-	62	48	-
25	45	47	53	54	59	-	75	73	66	62	47	-
26	45	47	-	54	60	70	75	73	66	62	-	46
27	45	-	53	54	61	70	75	-	68	62	47	46
28	45	48	53	54	-	72	75	75	68	-	47	45
29	45	48	53	54	61	72	75	74	68	61	47	45
30	-		53	-	-	72	-	73	68	59	47	45
31	45		54		62		75	72		59		-
Av.	45.0	47.5	51.0	53.6	57.6	65.2	75.2	73.4	69.4	62.7	51.3	45.7

* These data are made available through the Division of Water and Sewers, City of Sacramento.

TABLE 21

Daily Morning Water Temperatures, Sacramento River at Sacramento *

Hand thermometer readings taken at water works intake, one-half mile below mouth of American River
Sec. 35, T. 8N., R. 4E., Mt. Diablo B.& M.

Temperature, in degrees Fahrenheit, 19 45

Date	Jan. 8:30 A.M.	Feb. 8:30 A.M.	Mar. 8:30 A.M.	Apr. 8:30 A.M.	May 8:30 A.M.	June 8:30 A.M.	July 8:30 A.M.	Aug. 8:30 A.M.	Sept. 8:30 A.M.	Oct. 8:30 A.M.	Nov. 8:30 A.M.	Dec. 8:30 A.M.
1	-	45	45	-	54	57	-	72	68	63	54	45
2	43	46	45	52	54	58	72	72	-	63	54	-
3	43	47	45	51	54	-	72	72	-	63	-	45
4	42	-	-	51	54	58	-	72	68	63	-	45
5	42	46	45	51	54	58	73	-	68	63	55	45
6	42	46	45	51	-	57	74	72	68	63	-	45
7	-	46	45	51	54	58	75	71	68	-	52	45
8	43	46	45	-	54	58	-	71	68	63	52	45
9	44	47	46	51	54	59	74	71	-	63	50	-
10	45	47	46	51	54	-	73	71	-	63	-	44
11	45	-	-	50	54	62	73	71	70	63	-	44
12	45	47	49	51	54	63	74	-	-	64	-	43
13	45	47	49	51	-	63	74	71	72	64	50	43
14	-	48	51	-	53	63	74	71	72	-	50	43
15	45	48	51	-	53	62	-	-	70	64	50	43
16	46	48	48	54	53	63	75	71	-	64	49	-
17	45	47	47	55	54	-	74	71	77	63	49	42
18	45	-	-	56	54	65	74	71	68	63	-	42
19	44	47	46	56	54	66	72	-	68	63	49	42
20	43	47	47	55	-	68	72	72	67	63	49	43
21	-	46	48	55	54	68	72	72	65	-	49	43
22	42	-	48	-	54	66	-	72	65	61	-	45
23	41	46	48	53	54	66	74	71	-	60	48	-
24	40	46	48	53	54	-	74	71	63	57	-	-
25	40	-	-	53	56	66	74	71	63	55	-	-
26	40	46	46	54	57	67	74	-	63	55	49	46
27	40	46	46	53	-	68	75	70	63	55	48	47
28	-	46	46	53	57	70	75	69	63	-	47	48
29	42		47	-	58	71	-	68	62	55	47	48
30	43		49	54	-	72	72	68	-	55	46	-
31	44		50		57		72	68		56		-
Av.	43.0	46.6	47.1	52.7	54.5	63.5	73.5	70.8	66.9	61.0	49.8	44.4

* These data are made available through the Division of Water and Sewers, City of Sacramento.

TABLE 22

Daily Morning Water Temperatures, Sacramento River at Sacramento*

Hand thermometer readings taken at water works intake, one-half mile below mouth of American River

Sec. 35, T. 8N., R. 4E., Mt. Diablo B.& M.

Temperature, in degrees Fahrenheit, 1946

Date	Jan. 8:30 A.M.	Feb. 8:30 A.M.	Mar. 8:30 A.M.	Apr. 8:30 A.M.	May 8:30 A.M.	June 8:30 A.M.	July 8:30 A.M.	Aug. 8:30 A.M.	Sept. 8:30 A.M.	Oct. 8:30 A.M.	Nov. 8:30 A.M.	Dec. 8:30 A.M.
1	-	43	49	46	54	61	71	72	-	66	52	45
2	46	43	49	46	54	-	72	72	-	64	51	45
3	46	-	-	48	54	62	72	73	68	63	-	45
4	46	42	48	48	54	-	-	-	68	63	50	45
5	46	42	48	50	-	62	72	72	68	63	-	45
6	-	42	48	51	54	61	73	71	68	-	50	45
7	45	42	48	-	55	61	-	71	68	60	50	45
8	45	42	49	52	55	61	72	71	-	60	49	-
9	44	42	50	52	55	-	73	71	-	59	49	45
10	44	-	-	52	55	61	74	72	68	59	-	45
11	43	42	51	53	55	61	74	-	68	59	-	45
12	43	42	50	54	-	63	74	72	67	60	49	45
13	-	42	50	54	55	63	74	72	67	-	49	45
14	42	42	49	-	55	63	-	71	67	60	49	45
15	42	42	47	55	55	65	72	71	-	59	49	-
16	42	42	47	55	55	-	70	68	67	58	49	45
17	42	-	-	55	56	65	71	70	66	61	-	44
18	42	44	49	54	56	65	72	-	65	55	50	43
19	42	44	49	54	-	68	73	70	65	57	50	41
20	-	45	48	54	56	70	73	70	65	-	50	43
21	43	45	47	-	56	68	-	70	65	56	48	42
22	43	-	47	54	55	68	73	70	-	57	48	-
23	44	46	47	54	55	-	73	70	66	57	49	45
24	44	-	-	54	54	68	73	70	66	57	-	45
25	45	47	49	54	55	68	72	-	66	57	45	-
26	45	48	50	54	-	68	71	70	65	57	45	45
27	-	48	52	54	57	68	72	69	66	-	45	46
28	45	48	52	-	57	68	-	68	66	54	-	46
29	45		50	54	58	69	71	66	-	52	45	-
30	44		49	54	-	-	71	67	66	52	45	41
31	44		-		60		71	68		52		43
Av.	43.9	43.7	48.9	52.5	55.4	64.9	72.3	70.2	66.6	58.4	48.5	44.4

* These data are made available through the Division of Water and Sewers, City of Sacramento.

TABLE 23

Daily Morning Water Temperatures, Sacramento River at Sacramento *

Hand thermometer readings taken at water works intake, one-half mile below mouth of American River
Sec. 35, T. 8N., R. 4E., Mt. Diablo B.& M.

Temperature, in degrees Fahrenheit, 1947

Date	Jan. 8:30 A.M.	Feb. 8:30 A.M.	Mar. 8:30 A.M.	Apr. 8:30 A.M.	May 8:30 A.M.	June 8:30 A.M.	July 8:30 A.M.	Aug. 8:30 A.M.	Sept. 8:30 A.M.	Oct. 8:30 A.M.	Nov. 8:30 A.M.	Dec. 8:30A.M.
1	-	43	50	53	61	-	73	72	-	65	55	48
2	41	-	-	52	63	64	72	72	68	64	-	48
3	40	43	50	52	63	63	71	-	68	64	55	48
4	40	43	50	50	-	63	-	72	68	64	-	47
5	-	43	48	50	61	64	72	73	70	-	52	46
6	39	43	48	-	61	63	-	73	72	64	51	46
7	39	43	46	52	61	63	72	72	-	63	49	-
8	39	43	48	52	60	-	72	71	68	63	49	45
9	38	-	-	54	60	64	72	72	-	61	-	45
10	38	45	49	54	60	64	72	-	68	59	49	43
11	-	45	49	55	-	64	72	72	70	59	-	43
12	39	46	49	56	60	65	73	71	70	-	48	43
13	39	47	50	-	61	66	-	70	70	59	47	43
14	39	46	50	59	61	67	73	70	-	59	47	-
15	38	46	52	59	63	-	73	70	72	59	47	43
16	38	-	-	60	63	71	73	70	72	59	-	43
17	38	47	54	60	64	72	73	-	68	59	48	43
18	-	47	54	59	-	73	73	72	66	59	48	43
19	38	47	54	59	66	75	75	72	65	-	48	43
20	38	48	54	-	67	74	-	71	66	59	47	43
21	39	48	54	59	67	72	75	70	-	57	45	-
22	39	-	54	59	67	-	73	68	67	57	45	45
23	41	-	-	57	67	72	68	68	69	57	-	46
24	42	50	54	58	67	72	68	-	69	55	43	46
25	-	51	54	58	-	72	68	68	69	57	43	-
26	45	51	54	59	67	72	68	68	66	-	43	45
27	45	51	54	-	66	68	-	68	66	57	-	45
28	45	52	54	58	65	70	73	68	-	57	45	-
29	43		54	58	63	-	73	68	66	56	46	44
30	42		-	59	-	70	72	68	64	56	-	42
31	42		54		64		72	-		56		42
Av.	40.1	46.4	51.6	56.2	63.4	68.1	72.0	70.3	68.2	59.4	47.7	44.5

* These data are made available through the Division of Water and Sewers, City of Sacramento.

TABLE 24

Daily Morning Water Temperatures, Sacramento River at Sacramento *

Hand thermometer readings taken at water works intake, one-half mile below mouth of American River

Sec. 35, T. 8N., R. 4E., Mt. Diablo B.& M.

Temperature, in degrees Fahrenheit, 1948

Date	Jan. 8:30 A.M.	Feb. 8:30 A.M.	Mar. 8:30 A.M.	Apr. 8:30 A.M.	May 8:30 A.M.	June 8:30 A.M.	July 8:30 A.M.	Aug. 8:30 A.M.	Sept. 8:30 A.M.	Oct. 8:30 A.M.	Nov. 8:30 A.M.	Dec. 8:30 A.M.
1	-	-	45	52	48	-	69	-	68	61	54	45
2	44	40	46	52	-	54	69	70	68	61	-	45
3	44	40	46	52	50	55	68	70	66	-	54	45
4	-	40	45	-	52	55	-	69	66	62	54	45
5	45	40	45	48	54	55	-	69	-	62	52	-
6	46	41	45	45	55	-	66	70	-	61	52	45
7	46	41	-	46	55	55	66	70	66	61	-	45
8	46	-	45	47	54	56	66	-	66	61	49	45
9	45	41	45	48	-	57	66	68	-	63	48	45
10	45	41	45	48	52	57	68	67	68	-	48	45
11	-	41	45	-	54	59	-	67	68	61	-	45
12	45	40	46	48	54	59	71	67	-	61	49	-
13	45	40	47	48	54	-	72	66	68	61	49	46
14	44	40	-	50	55	58	73	66	68	61	-	46
15	43	-	46	50	54	59	74	-	67	61	50	46
16	43	41	46	52	-	59	75	66	66	-	51	45
17	43	43	45	52	54	60	74	66	63	-	52	43
18	-	44	45	-	52	61	-	66	63	59	52	43
19	43	45	45	48	51	62	73	66	-	59	50	-
20	43	45	45	50	49	-	73	66	63	59	49	43
21	43	45	-	50	48	63	73	66	63	59	-	43
22	43	-	47	50	48	63	73	-	63	59	48	43
23	41	-	47	50	-	64	72	65	63	59	48	43
24	43	45	47	50	54	64	72	65	63	-	47	42
25	-	45	48	-	56	64	-	65	63	59	-	-
26	43	45	46	52	56	66	72	65	-	59	47	-
27	43	45	46	52	55	-	72	65	60	59	47	41
28	41	45	-	50	54	67	71	65	60	57	-	41
29	41		48	48	54	68	70	-	60	57	46	41
30	41		48	46	-	68	68	67	60	55	45	41
31	41		50		-		68	67		-		41
Av.	43.5	42.3	46.1	49.4	52.8	60.3	70.5	66.9	64.5	60.0	49.6	43.8

* These data are made available through the Division of Water and Sewers, City of Sacramento.

TABLE 25

Daily Maximum and Minimum Water Temperatures, Sacramento River at Walnut Grove
Thermograph located on highway bridge at Walnut Grove, Sacramento County, California
Sec. 36, T. 5 N., R. 4 E., Mt. Diablo, B. & M.

Temperature, in degrees Fahrenheit, 1947

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	52	48	51	48	56	54	-	-	65	62	70	68	74	72	75	74	73	69	71	68	61	59	53	49
2	51	48	52	48	55	53	-	-	67	64	69	67	74	73	75	74	71	70	69	67	61	58	53	50
3	50	47	51	47	54	53	-	-	68	65	69	67	74	72	75	73	74	71	69	66	58	56	55	52
4	50	46	50	48	55	52	-	-	68	64	68	66	73	71	75	74	73	71	69	66	58	56	54	52
5	49	47	50	47	53	50	-	-	67	64	68	67	74	72	76	73	74	71	69	67	59	55	55	51
6	48	48	50	49	54	51	-	-	66	63	68	66	74	72	76	74	74	72	68	66	57	54	53	51
7	46	45	51	49	53	50	-	-	66	64	68	66	75	71	76	73	73	71	68	66	57	53	54	50
8	47	46	51	50	52	51	-	-	67	64	68	66	73	71	76	73	72	72	68	65	57	53	53	51
9	48	46	50	48	52	51	57	55	68	63	68	66	74	71	75	73	73	71	67	65	56	54	53	49
10	48	47	50	48	52	50	58	55	65	63	68	65	72	71	75	72	73	70	65	64	56	52	51	48
11	48	45	50	48	53	50	58	56	65	63	67	65	72	71	75	72	73	70	65	63	56	52	51	48
12	49	47	51	48	53	50	58	56	65	63	67	65	73	72	74	73	72	70	64	61	54	52	51	47
13	48	45	52	49	53	51	60	57	65	63	68	67	73	72	74	72	73	71	61	59	56	52	51	47
14	47	45	51	50	55	51	61	59	66	63	70	68	73	72	73	72	-	72	62	59	53	51	51	47
15	48	45	51	49	56	53	62	59	66	64	71	69	73	72	74	72	72	-	62	60	54	51	51	46
16	48	44	52	49	56	53	62	61	67	64	72	70	75	72	73	72	73	72	62	61	54	52	49	46
17	48	45	52	50	57	55	63	62	68	65	72	70	75	73	73	71	72	70	63	61	55	52	49	46
18	48	45	51	-	58	56	65	62	70	67	73	72	75	73	73	72	72	69	63	61	54	52	50	47
19	48	45	52	50	57	56	64	61	71	67	75	73	76	74	74	72	72	67	64	60	54	51	50	48
20	47	43	53	51	57	56	64	62	72	68	75	74	76	75	73	73	70	66	62	60	55	52	50	48
21	47	44	54	51	59	56	65	61	72	70	75	73	76	75	74	72	69	66	63	61	55	51	50	48
22	48	44	55	52	59	57	64	61	73	70	74	72	76	74	74	71	68	66	63	60	54	51	50	49
23	49	45	55	52	59	56	63	60	73	71	75	72	75	73	73	71	68	66	64	60	54	51	51	49
24	48	46	55	51	60	57	64	61	72	69	74	72	75	73	74	71	69	68	62	59	53	49	52	50
25	50	45	55	52	59	55	65	61	73	70	74	72	75	73	72	72	70	67	62	59	52	47	52	49
26	49	47	56	54	58	55	65	61	73	70	73	72	75	73	72	70	71	67	62	59	51	47	52	51
27	51	50	56	54	57	56	65	63	72	69	73	72	75	73	73	71	71	68	61	60	51	48	53	51
28	50	50	57	54	57	56	64	61	72	69	73	71	75	73	71	70	71	69	62	60	50	48	53	51
29	52	49			59	57	63	61	72	69	74	72	76	75	71	70	71	69	61	59	50	48	51	49
30	51	49			59	56	64	61	71	69	74	71	75	73	72	70	71	69	61	59	52	49	51	48
31	51	49			57	54			71	69			75	73	72	70			61	59			51	48
Av.	48.8	46.3	52.3	49.8	55.9	53.6	62.5	59.8	68.9	66.0	71.1	69.2	74.3	72.6	73.8	71.8	71.7	69.3	64.6	61.8	57.5	52.1	51.7	48.9

TABLE 26

Daily Maximum and Minimum Water Temperatures, Sacramento River at Walnut Grove
Thermograph located on highway bridge at Walnut Grove, Sacramento County, California
Sec. 35, T. 5 N., R. 4 E., Mt. Diablo B. & M.
Temperature, in degrees Fahrenheit, 1948

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	49	47	48	46	53	49	57	54	54	51	57	56	72	70	74	70	71	68	-	-	57	55	-	-
2	48	46	50	45	51	49	58	54	54	51	58	56	73	70	74	70	71	68	-	-	56	52	-	-
3	48	47	49	45	53	50	58	56	54	53	60	58	73	70	73	71	71	68	-	-	56	54	-	-
4	48	46	49	46	54	50	57	54	56	54	61	59	72	70	73	71	71	68	-	-	58	54	-	-
5	48	47	48	47	54	50	55	52	58	55	60	59	71	69	73	70	71	68	-	-	58	55	-	-
6	51	48	48	46	54	51	54	51	59	57	61	58	69	68	73	70	71	68	66	62	59	54	-	-
7	49	48	49	46	54	51	54	50	60	58	60	58	70	68	73	71	71	67	65	62	57	53	-	-
8	52	48	49	45	54	51	53	51	61	58	60	59	70	67	73	70	70	67	65	62	56	52	50	48
9	53	49	47	45	52	51	52	50	60	57	62	60	70	68	72	68	71	68	65	63	56	51	51	48
10	52	50	47	45	53	51	53	51	59	56	63	61	70	68	69	67	70	68	66	63	56	51	51	48
11	53	50	48	46	54	50	53	51	59	56	63	61	71	69	70	67	70	68	65	69	56	50	51	49
12	52	48	49	45	53	51	53	50	59	56	64	62	72	70	71	67	71	68	64	61	54	49	52	50
13	52	48	49	45	54	52	54	51	59	57	64	62	73	71	71	68	71	69	64	62	56	51	52	50
14	51	47	48	45	54	53	54	52	60	57	64	62	74	72	71	69	70	69	64	62	55	52	51	47
15	51	47	48	45	55	52	53	51	60	57	64	61	75	73	71	69	70	68	64	61	55	52	50	48
16	50	46	-	-	53	51	54	52	60	58	64	62	76	74	72	70	70	67	64	62	54	53	49	47
17	51	47	-	-	52	50	55	52	59	58	65	63	78	76	71	68	68	67	64	61	57	53	47	45
18	52	47	-	-	52	50	56	52	59	57	65	63	78	75	71	68	68	65	64	61	57	53	47	44
19	51	46	-	-	52	49	55	53	59	56	67	64	77	75	71	68	67	65	64	61	56	53	48	45
20	50	46	-	-	53	51	55	53	57	55	66	65	76	74	71	68	66	65	63	60	56	52	48	45
21	51	46	-	-	54	51	57	54	56	54	68	65	76	74	72	69	66	64	63	59	56	51	46	43
22	51	46	-	-	53	51	56	54	56	54	66	65	77	75	71	69	66	64	63	60	55	50	47	38
23	49	46	-	-	53	51	56	54	58	55	67	65	76	74	70	67	66	63	63	59	53	49	47	41
24	51	47	50	-	54	52	56	54	60	58	68	66	75	73	70	67	66	64	62	60	54	50	46	37
25	52	48	53	48	55	49	56	54	61	59	69	67	74	72	70	66	67	65	63	60	54	50	46	44
26	51	48	52	50	52	48	57	56	61	59	69	68	74	72	70	67	67	64	62	59	54	50	45	43
27	51	48	53	51	51	49	57	54	61	60	71	69	75	71	70	67	66	64	63	59	55	50	43	41
28	52	47	53	52	52	49	57	55	61	59	71	68	74	72	70	67	65	62	63	58	55	49	43	41
29	51	47	54	50	53	50	56	54	60	59	71	69	74	72	70	68	64	61	62	59	53	48	44	40
30	50	46			53	50	53	51	60	58	72	70	73	70	70	68	64	61	63	57	54	-	45	43
31	50	46			55	53			59	56			74	70	71	68			60	57			46	44
Av.	50.6	47.1	49.5	46.6	53.1	50.4	55.1	52.6	58.6	56.4	64.6	62.7	73.9	71.3	71.6	68.5	68.5	66.0	63.6	60.7	55.6	51.6	47.7	44.6

TABLE 27

Daily Maximum and Minimum Water Temperatures, Sacramento River at Rio Vista

Thermograph located on U. S. Engineers dock one mile south of Rio Vista, Solano County, California
Sec. 36, T. 4 N., R. 2 E., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1948

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	46	45	46	45	51	49	55	53	54	52	61	59	71	70	-	-	73	71	-	-	-	-	50	50
2	46	45	45	43	50	49	55	54	55	52	60	58	71	70	72	-	74	71	-	-	-	-	51	50
3	47	46	45	43	50	48	55	54	56	54	60	58	72	70	73	70	-	71	-	-	-	-	50	50
4	47	46	44	43	50	48	55	53	58	55	61	60	71	69	72	70	-	-	-	-	56	55	50	49
5	47	46	44	43	50	49	53	52	60	57	63	60	70	69	75	70	-	-	-	-	56	55	50	49
6	47	46	44	43	51	49	52	51	62	59	63	61	71	69	74	71	-	-	66	64	57	55	49	49
7	48	47	45	43	51	50	52	50	61	60	63	61	70	69	73	71	74	71	68	64	55	53	50	49
8	48	47	45	44	50	49	51	50	62	60	62	60	70	69	72	70	73	70	68	65	55	53	50	49
9	49	47	45	44	50	50	52	51	61	59	64	61	70	69	72	70	74	71	66	65	55	53	50	49
10	48	48	44	43	51	49	52	51	61	59	65	-	71	69	72	70	74	71	66	64	53	53	50	50
11	48	47	44	42	52	50	53	52	61	58	66	63	71	70	71	70	72	71	64	64	54	53	50	49
12	50	47	44	42	51	50	53	50	61	58	66	64	70	69	71	70	74	71	65	64	53	53	50	49
13	49	48	44	42	51	51	52	51	61	59	66	59	72	69	71	69	75	71	64	63	54	52	50	49
14	49	47	46	43	52	50	53	51	62	59	65	59	74	69	71	69	72	71	63	62	52	52	50	49
15	48	47	44	44	52	50	54	52	63	61	65	65	73	70	70	69	71	70	63	63	53	53	50	49
16	48	46	46	44	51	50	54	53	62	60	64	64	74	72	70	69	70	69	64	63	54	52	50	49
17	48	46	46	44	51	50	56	53	61	60	65	64	75	73	71	69	69	69	63	62	53	53	50	49
18	47	46	46	43	51	49	55	53	60	59	66	65	74	72	70	69	69	68	64	63	54	52	50	48
19	47	46	47	45	50	49	56	55	59	58	68	64	75	73	72	69	70	67	64	62	53	53	49	49
20	46	44	47	46	51	49	56	54	58	57	68	66	75	72	74	70	69	68	65	62	54	53	49	48
21	46	44	49	47	51	50	56	54	60	56	68	66	72	-	72	70	67	66	64	63	54	52	48	48
22	47	45	49	48	51	50	57	55	62	56	67	66	-	-	71	69	68	66	65	62	53	52	49	48
23	47	46	49	48	51	50	57	54	60	58	68	66	-	-	72	69	66	65	63	63	53	52	48	47
24	48	46	49	48	51	50	58	55	59	59	69	68	-	-	73	69	67	65	63	62	52	52	47	47
25	47	46	50	47	52	50	59	56	62	60	68	68	-	-	72	70	65	64	64	62	53	52	47	46
26	45	45	50	49	51	49	59	56	63	61	69	68	-	-	71	70	66	64	63	62	52	51	47	45
27	45	44	50	49	52	48	58	57	63	62	69	68	-	-	73	70	67	64	62	61	51	50	46	46
28	46	44	50	49	50	49	57	56	62	61	70	69	-	-	72	70	67	65	61	60	51	50	43	42
29	47	44	51	49	51	49	56	54	63	61	70	69	-	-	72	70	66	64	60	60	51	50	42	42
30	47	45			52	50	54	53	62	61	71	70	-	-	71	70	66	64	60	59	51	51	43	41
31	47	45			54	52			61	60			-	-	73	70			59	58			42	42
Av.	47.3	45.5	46.5	45.0	51.1	49.5	54.8	53.3	60.4	58.4	65.6	63.7	72.0	70.1	71.9	69.6	69.8	68.8	63.7	62.4	53.4	52.4	48.4	47.6

TABLE 28

Daily Afternoon and Morning Water Temperatures, Trinity River at Lewiston

Hand thermometer readings taken 100 yards upstream from highway bridge at Lewiston, Trinity County, California
Sec. 18, T. 33 N., R. 8 W., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1942 and 1943

	1942				1943																	
	Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
Date	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5PM	8AM
1	-	-	44	-	41	41	40	39	43	42	49	45	53	48					-	-	74	64
2	53	53	44	43	41	41	42	40	44	43	49	47	52	49					-	-	74	64
3	53	53	43	42	41	41	43	42	45	44	51	47	52	50					-	-	74	64
4	52	53	41	41	41	41	42	42	46	45	51	48	54	50					73	68	75	65
5	52	52	41	36	42	41	42	42	47	45	45	45	52	49					74	68	75	65
6	50	57	38	36	41	41	42	42	45	45	45	44	52	49					74	66	75	65
7	53	51	39	37	40	39	43	42	45	45	45	43	52	49					74	66	-	65
8	51	49	39	38	40	39	41	43	45	44	46	44	53	49					76	66	-	65
9	50	49	41	39	39	38	39	39	45	45	46	45	53	49					76	65	-	66
10	49	47	42	41	39	38	41	40	45	45	48	47	53	51					77	66	-	66
11	45	44	42	41	38	37	41	41	46	45	50	47	52	49					77	67	-	65
12	43	44	42	41	39	37	41	41	45	45	51	48	52	49					77	67	-	65
13	45	45	48	41	38	38	42	41	46	46	52	48	51	49					78	67	-	65
14	48	47	43	41	38	37	42	40	45	44	52	48	50	49					77	68	-	65
15	48	47	42	41	38	37	41	40	44	41	50	48	-	-					77	67	-	64
16	44	46	42	41	37	37	43	40	43	41	51	49	-	-					75	65	-	-
17	41	40	42	41	37	37	44	42	45	43	51	48	-	-					75	65	-	-
18	44	43	41	41	37	36	44	42	45	43	50	48	-	-					74	65	-	-
19	44	43	42	40	37	37	44	43	45	43	50	47	-	-					74	64	-	-
20	44	43	42	41	34	35	43	42	45	42	46	46	-	-					74	64	-	-
21	44	44	41	41	36	34	43	43	44	42	47	46	-	-					72	65	-	-
22	46	45	39	40	38	38	45	43	49	45	49	47	-	-					73	62	-	-
23	46	46	37	38	38	37	45	44	48	44	50	49	-	-					73	65	-	-
24	46	46	41	40	39	39	44	43	49	46	49	46	-	-					73	64	-	-
25	45	46	42	42	39	39	43	40	50	47	51	48	-	-					74	64	-	-
26	45	45	39	38	40	40	44	41	50	48	49	47	-	-					74	64	-	-
27	45	45	39	39	41	41	45	44	49	45	46	46	-	-					-	64	-	-
28	46	45	40	39	40	40	43	42	48	45	48	45	-	-					75	64	-	-
29	47	46	-	-	39	40			45	44	50	46	-	-					74	64	-	-
30	-	47	40	40	39	39			42	42	49	48	-	-					-	62	-	-
31			40	40	39	39			47	43			-	-					74	63		
Av.	47.1	46.6	41.2	40	38.9	38.5	42.6	41.2	45.8	44.1	48.9	46.7	52.2	49.2					74.8	65.2	74.5	64.9

TABLE 29

Daily Afternoon and Morning Water Temperatures, Trinity River at Lewiston

Hand thermometer readings taken 100 yards upstream from highway bridge at Lewiston, Trinity County, California
Sec. 18, T. 33 N., R. 8 W., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1944

	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
Date	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM
1	-	-	40	40	43	39	-	-	-	-	54	50	68	63	74	68	75	65	66	57	57	53	45	44
2	-	-	40	40	45	39	49	46	-	-	52	50	68	65	76	65	76	65	68	58	54	52	44	41
3	-	-	40	40	43	40	46	45	-	-	52	48	69	64	77	68	75	64	62	59	52	51	45	41
4	-	-	40	40	40	39	46	45	-	-	55	50	69	63	78	70	77	65	68	58	50	49	44	42
5	-	-	43	40	42	39	48	44	-	-	59	55	68	63	80	70	76	66	66	60	52	50	45	43
6	-	-	45	43	43	40	46	45	-	-	61	59	68	64	78	69	77	67	65	57	48	50	45	43
7	-	-	44	43	45	41	46	45	-	-	63	58	74	65	76	64	75	67	66	56	50	48	43	43
8	-	-	43	43	43	40	47	45	-	-	61	55	70	64	78	68	75	67	66	60	52	50	43	42
9	-	-	42	40	47	45	47	44	-	-	55	55	68	64	76	68	77	66	65	60	49	47	42	41
10	-	-	41	40	47	43	50	48	-	-	60	54	73	64	78	65	75	67	65	58	48	48	42	40
11	-	-	40	39	45	40	48	47	-	-	62	58	75	65	80	67	75	65	63	59	49	47	41	40
12	-	-	40	38	45	40	48	45	-	-	62	55	73	65	80	68	74	65	61	58	50	48	40	39
13	-	-	40	37	41	39	45	45	-	-	64	56	75	67	79	68	73	64	65	57	49	47	41	37
14	-	-	41	38	41	37	47	44	-	-	56	55	73	67	80	70	70	64	66	56	45	46	40	38
15	-	-	41	38	43	36	49	46	-	-	55	52	76	70	79	69	71	61	63	54	46	45	40	38
16	-	-	41	37	45	38	48	45	52	44	54	52	76	68	76	68	69	63	63	55	44	42	40	39
17	-	-	41	37	48	41	46	44	50	48	58	54	75	69	78	70	69	59	64	55	45	42	42	40
18	-	-	40	37	46	45	-	-	52	50	57	55	77	69	76	68	69	59	65	54	44	43	43	41
19	-	-	41	38	45	43	-	-	55	50	57	54	79	70	78	68	68	58	62	54	46	43	44	42
20	-	-	42	37	44	42	-	-	57	51	56	55	78	70	77	68	67	58	64	54	44	42	44	42
21	-	-	39	39	45	41	-	-	56	56	58	54	78	70	77	67	64	60	64	57	45	42	44	43
22	-	-	39	36	46	43	-	-	55	51	62	56	80	69	76	67	66	60	65	57	46	43	45	44
23	-	-	42	37	46	43	-	-	54	48	62	57	80	70	75	67	69	62	66	56	47	45	45	45
24	-	-	43	39	47	43	-	-	57	48	54	56	81	68	75	67	70	65	62	54	45	44	44	44
25	-	-	41	39	46	43	-	-	57	50	64	59	79	70	77	65	70	62	62	54	45	42	42	42
26	-	-	42	36	45	41	-	-	55	55	66	58	79	71	77	67	72	62	60	53	44	43	41	40
27	40	-	42	37	45	42	-	-	56	52	66	64	81	75	80	68	69	62	61	52	42	40	40	40
28	39	37	43	39	47	42	-	-	55	54	68	64	79	72	79	68	68	62	60	55	45	44	40	40
29	40	39	42	40	48	44	-	-	59	52	69	61	78	70	78	67	65	61	62	55	46	44	40	39
30	41	40			49	47	-	-	56	54	71	66	77	72	77	67	67	58	63	57	47	46	40	39
31	43	40			49	47			55	54			78	69	70	65			59	55			41	39
Av.	40.6	39.0	41.3	38.9	45.0	41.4	47.2	45.1	55.0	51.1	59.8	55.8	74.9	67.6	77.3	67.5	71.4	63.0	63.8	56.3	47.5	45.9	42.4	41.0

TABLE 30

Daily Maximum and Minimum Water Temperatures, Trinity River at Lewiston

Thermograph located 100 yards upstream from highway bridge at Lewiston, Trinity County, California

Sec. 18, T. 33 N., R. 8 W., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1945

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	40	39	41	39	43	40	47	42	54	47	58	53	72	62	81	68	76	65	67	56	51	49	43	43
2	40	39	41	39	42	39	45	40	54	47	56	53	74	64	80	67	76	64	66	55	52	50	45	43
3	40	39	44	41	43	40	46	41	54	47	57	53	75	66	80	67	75	63	64	56	52	50	44	42
4	40	39	43	42	43	39	47	42	55	47	58	53	75	66	81	66	76	63	63	55	53	50	42	39
5	41	40	44	42	42	38	47	43	54	48	56	52	76	66	81	68	76	66	65	55	52	48	43	41
6	41	41	44	41	42	39	48	44	55	48	58	52	76	67	81	71	74	64	67	57	48	44	44	42
7	44	43	44	43	43	40	46	44	55	49	59	54	77	68	80	68	75	62	68	58	48	44	43	42
8	43	41	44	43	44	42	46	43	56	50	59	54	78	69	81	67	75	63	68	61	48	44	42	41
9	43	41	44	42	47	42	45	41	55	51	60	55	73	69	82	68	76	63	67	62	46	44	41	40
10	44	42	44	42	47	43	46	42	54	49	61	55	73	67	81	70	77	64	69	62	47	44	42	40
11	43	41	46	43	48	44	48	45	51	48	62	57	76	66	81	68	78	66	69	63	46	44	42	40
12	43	41	45	42	47	45	48	43	51	48	62	57	78	69	79	67	78	66	69	62	46	43	40	37
13	45	43	45	43	48	44	48	43	50	46	61	57	79	69	79	65	78	67	69	61	48	44	38	35
14	45	44	44	42	45	44	50	44	51	47	60	55	79	70	78	65	77	65	68	59	45	44	36	34
15	44	42	42	39	45	43	52	47	53	48	61	55	79	68	79	66	75	64	65	58	45	43	37	35
16	42	40	43	40	43	37	52	48	54	46	63	56	79	69	79	66	73	63	65	60	43	41	40	37
17	40	38	44	42	39	36	51	47	50	47	65	57	81	68	80	66	73	62	67	59	44	41	40	38
18	41	38	43	40	43	38	52	46	50	46	67	59	79	68	75	69	73	63	66	58	45	43	39	38
19	40	38	42	38	41	40	52	46	51	46	68	61	79	66	79	67	73	62	65	57	46	44	39	37
20	39	36	42	39	40	39	52	45	53	48	69	62	80	64	80	67	68	61	65	58	46	44	39	37
21	37	35	43	39	45	38	50	44	54	49	69	63	80	64	80	67	66	59	60	55	45	43	39	38
22	37	34	44	41	44	38	50	44	53	51	67	63	-	-	80	67	68	58	58	53	45	43	41	39
23	37	34	42	40	44	38	51	45	52	48	69	62	80	70	79	67	67	56	58	50	46	44	42	40
24	37	34	42	39	44	41	50	47	52	49	66	64	81	70	76	66	68	56	57	48	45	44	42	42
25	38	36	42	39	43	39	49	43	52	49	65	62	81	69	74	63	68	57	57	48	43	42	43	42
26	40	36	42	39	43	39	50	43	52	50	66	59	82	69	75	63	66	56	56	48	45	43	43	42
27	40	36	43	40	47	42	51	46	53	48	68	61	83	70	75	64	65	55	54	51	45	44	44	42
28	40	35	43	39	46	43	52	47	54	50	69	60	82	71	74	64	66	54	53	52	45	43	44	43
29	42	37			48	43	53	47	53	50	70	61	81	70	74	65	66	55	53	49	44	42	43	42
30	41	40			48	44	54	47	53	52	70	61	80	68	77	64	67	55	-	-	44	42	43	42
31	40	39			48	44			58	51			80	68	76	64			50	49			43	42
Av.	41	38.7	43.2	40.6	44.3	40.7	49.3	44.3	53.1	48.4	63.3	57.5	78.3	67.7	78.6	66.4	72.3	61.2	62.9	55.8	46.6	44.3	41.5	39.8

TABLE 31

Daily Maximum and Minimum Water Temperatures, Trinity River at Lewiston
Thermograph located 100 yards upstream from highway bridge at Lewiston, Trinity County, California
Sec. 18, T. 33 N., R. 8 W., Mt. Diablo B. & M.
Temperature, in degrees Fahrenheit, 1946

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	Oct.	Nov.	Dec.
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.				
1	44	43	-	-	43	41	47	43	51	44	58	52	70	61	77	66				
2	44	43	-	-	43	40	46	43	53	45	58	53	70	62	79	68				
3	43	43	-	-	42	39	46	44	52	45	58	53	71	62	80	70				
4	39	39	-	-	43	38	48	43	51	44	58	53	72	63	79	69				
5	42	41	-	-	44	41	49	45	51	44	57	53	72	67	78	67				
6	40	40	-	-	46	42	50	46	52	44	55	50	72	63	77	66				
7	40	39	-	-	45	41	49	47	51	45	57	51	72	63	78	66				
8	40	39	-	-	46	42	47	44	51	44	58	53	69	63	79	66				
9	39	38	39	35	45	41	48	44	52	45	58	54	72	62	79	66				
10	40	39	38	35	45	42	49	44	53	46	59	54	72	63	-	-				
11	-	39	38	34	44	40	50	46	52	44	60	54	74	65	-	-				
12	37	36	37	34	44	43	50	48	53	46	61	55	74	65	-	-				
13	38	36	38	34	45	41	52	47	52	47	59	56	73	65	-	-				
14	39	37	38	35	43	39	51	46	52	46	59	54	70	65	-	-				
15	38	37	39	36	45	41	52	46	54	48	58	55	72	61	-	-				
16	39	38	40	37	45	41	52	45	55	48	61	55	73	63	-	-				
17	38	37	41	38	45	43	52	44	56	48	63	57	74	64	-	-				
18	-	38	42	38	43	41	50	44	55	49	64	57	76	65	-	-				
19	-	-	40	38	43	42	49	44	55	48	65	53	78	67	-	-				
20	-	-	40	38	45	42	49	43	54	49	66	54	79	69	-	-				
21	-	-	41	39	47	43	49	43	48	46	65	60	79	69	-	-				
22	-	-	43	39	46	45	51	44	47	46	64	59	80	71	-	-				
23	-	-	42	40	45	42	52	45	49	45	62	57	79	72	-	-				
24	-	-	42	40	47	41	52	44	50	47	63	55	78	70	-	-				
25	-	-	43	40	47	43	51	44	50	48	65	57	72	67	-	-				
26	-	-	41	39	49	45	50	43	53	49	65	58	67	64	-	-				
27	-	-	44	41	48	45	51	43	54	47	64	58	73	63	-	-				
28	-	-	43	40	47	42	51	44	54	49	61	58	75	66	-	-				
29	-	-			42	39	50	45	54	49	65	56	75	66	-	-				
30	-	-			42	39	49	42	54	49	68	59	73	66	-	-				
31	-	-			44	42			58	52			75	64	-	-				
Av.	40.0	39.0	40.4	37.5	44.8	41.5	49.7	44.3	52.4	46.6	61.1	55.2	73.6	65.0	78.4	67.1				

TABLE 32

Daily Maximum and Minimum Water Temperatures, Trinity River at Junction City
Thermograph located one-half mile south of Junction City, Trinity County, California
Sec. 12, T. 33 N., R. 11 W., Mt. Diablo B. & M.
Temperature, in degrees Fahrenheit, 1945 and 1946

	1945														1946											
	July		Aug.		Sept.		Oct.		Nov.		Dec.				Jan.		Feb.		May		June		July			
Date	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.			Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1	-	-	83	72	78	67	69	58	51	48	44	43			45	44	38	36	-	-	61	54	71	64		
2	-	-	80	71	78	67	68	58	53	49	44	42			44	44	39	38	-	-	62	57	71	64		
3	76	-	82	70	77	66	66	59	54	52	44	43			43	43	39	37	-	-	62	56	71	64		
4	76	68	81	70	77	66	66	58	54	51	43	41			43	40	38	36	-	-	62	56	72	65		
5	77	69	81	70	77	68	67	57	53	49	44	41			43	41	38	37	-	-	61	56	73	66		
6	77	70	81	72	76	66	66	59	50	46	45	43			42	41	38	35	-	-	61	54	73	66		
7	79	71	80	70	76	64	68	59	48	45	44	42			41	40	37	34	-	-	62	54	73	66		
8	79	72	81	69	77	65	68	62	48	45	43	41			41	39	39	35	-	-	62	55	70	66		
9	74	72	82	70	77	66	67	63	47	46	41	40			40	39	40	38	-	-	62	56	73	65		
10	74	69	80	72	79	67	69	62	47	45	42	40			41	41	39	37	-	-	62	55	74	67		
11	78	70	80	70	80	68	69	63	46	44	43	41			41	39	39	36	-	-	64	57	75	68		
12	79	71	79	69	79	68	70	63	48	45	41	38			39	36	38	36	-	-	65	58	76	68		
13	80	72	80	68	79	69	70	63	49	45	39	36			38	36	39	36	-	-	63	58	-	-		
14	80	72	80	69	78	67	69	61	47	45	36	34			39	36	38	36	-	-	63	57	-	-		
15	80	72	80	69	76	67	68	60	47	45	37	35			39	36	39	38	-	-	62	57	-	-		
16	80	72	79	68	75	66	65	61	45	44	38	37			39	37	-	-	-	-	64	57	-	-		
17	79	71	81	69	76	65	67	61	45	43	40	38			39	37	-	-	-	-	66	58	-	-		
18	80	71	75	71	76	66	67	59	45	43	40	38			39	36	-	-	-	-	67	60	-	-		
19	78	70	79	69	75	65	66	58	47	45	39	37			38	37	-	-	-	-	69	61	-	-		
20	78	69	80	69	71	64	66	59	47	45	38	38			39	37	-	-	-	-	70	62	-	-		
21	78	69	81	70	66	61	60	56	46	44	40	38			39	38	-	-	-	-	69	63	-	-		
22	79	70	81	70	69	60	60	53	46	44	40	40			40	39	-	-	-	-	66	62	-	-		
23	80	70	79	69	68	59	58	51	47	45	41	40			42	40	45	43	-	-	64	58	-	-		
24	80	71	76	68	70	59	58	50	47	45	42	41			42	41	43	41	-	-	64	58	-	-		
25	81	70	76	66	70	70	57	49	45	43	43	42			42	40	44	40	51	49	66	59	-	-		
26	83	71	76	66	69	59	56	49	45	43	42	42			40	38	42	39	52	48	66	60	-	-		
27	85	73	76	66	66	58	53	51	46	44	44	42			38	35	-	-	54	48	66	60	-	-		
28	84	74	75	66	67	56	53	51	46	44	46	44			38	35	-	-	56	49	64	61	76	69		
29	82	73	77	67	68	57	53	52	44	42	45	44			39	35			57	50	66	58	76	69		
30	82	70	78	67	68	58	52	48	45	43	44	43			38	36			57	51	69	62	74	69		
31	82	71	78	67			49	48			44	43			38	35			58	52			76	67		
Av.	79.3	70.8	79.2	69.0	73.6	63.6	63.2	56.8	47.6	45.2	41.8	40.2			40.3	38.4	39.6	37.3	55.	49.4	64.3	57.9	73.3	664		

TABLE 33

Daily Maximum and Minimum Water Temperatures, Anderson-Cottonwood Irrigation District Canal near Anderson
Thermograph located on Anderson-Cottonwood Irrigation District Canal two miles northwest of Anderson, Shasta County, California
Sec. 16, T. 30 N., R. 4 W., Mt. Diablo B. & M.
Temperature, in degrees Fahrenheit, 1948

Date	Jan.	Feb.	Mar.	Apr.	May		June		July		Aug.		Sept.		Oct.		Nov.	Dec.
					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1					-	-	54	50	55	53	55	52	56	53	56	54		
2					-	-	55	51	55	52	55	52	56	53	55	55		
3					-	-	55	51	55	53	55	52	56	53	55	54		
4					-	-	53	50	55	53	55	53	56	54	55	53		
5					-	-	53	51	55	51	55	52	56	53	56	53		
6					-	-	57	51	54	51	55	52	56	53	56	54		
7					-	-	57	52	55	52	55	53	56	54	56	54		
8					-	-	54	51	55	52	55	54	56	54	56	54		
9					60	56	54	53	55	52	55	53	55	53	56	54		
10					64	57	54	52	55	52	55	52	56	53	56	54		
11					-	-	55	52	56	53	55	53	56	53	56	54		
12					-	-	55	52	55	53	55	53	56	52	56	54		
13					58	-	55	52	55	52	56	53	56	53	56	55		
14					59	54	55	52	55	52	55	53	56	53	56	55		
15					60	55	54	52	55	52	55	53	56	54	56	54		
16					60	56	55	51	55	52	55	53	56	54	56	54		
17					57	55	53	51	55	52	55	53	56	54	56	54		
18					56	54	54	52	55	52	55	53	56	54	56	53		
19					55	54	54	51	55	53	55	53	56	54	56	53		
20					-	54	55	52	55	52	55	53	56	54	56	54		
21					52	50	54	53	55	52	55	53	55	54	56	-		
22					53	50	54	52	55	52	55	53	55	55	-	-		
23					53	50	55	51	55	53	55	53	55	54	-	-		
24					53	50	55	52	55	53	55	53	56	55	-	-		
25					53	50	55	52	56	52	56	53	56	53	-	-		
26					52	51	55	52	55	52	56	53	56	55	-	-		
27					52	51	55	52	55	52	55	53	56	53	-	-		
28					51	49	55	52	55	53	55	52	56	54	-	-		
29					51	50	54	52	54	53	53	53	57	54	-	-		
30					52	50	57	52	55	53	55	53	57	54	-	-		
31					52	51			55	52	55	52						
Av.					55.1	52.3	54.6	51.6	54.9	52.3	55.1	52.7	55.9	53.6	55.8	53.9		

TABLE 34

Daily Maximum and Minimum Water Temperatures, Anderson-Cottonwood Irrigation District Canal west of Cottonwood
Thermograph located on Anderson-Cottonwood Irrigation District Canal two miles southwest of Cottonwood, Tehama County, California
Sec. 16, T. 29 N., R. 4 W., Mt. Diablo B. & M.
Temperature, in degrees Fahrenheit, 1947

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
											Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.				
1											-	-	67	61	68	61	66	59	64	59				
2											-	-	66	61	68	61	65	59	65	59				
3											-	-	64	58	68	61	66	59	68	61				
4											-	-	65	58	70	61	66	58	68	61				
5											-	-	65	59	72	62	67	59	67	63				
6											59	56	68	60	72	63	67	60	64	60				
7											56	55	69	61	73	61	67	62	61	57				
8											58	55	67	60	71	62	65	59	58	56				
9											63	56	67	60	68	60	65	60	57	55				
10											63	61	69	61	68	60	65	59	56	55				
11											61	57	69	61	69	60	66	60	-	-				
12											63	58	69	61	68	60	66	59	-	-				
13											64	59	70	61	69	60	67	59	-	-				
14											65	60	70	63	69	62	67	62	-	-				
15											65	61	70	62	68	61	68	60	-	-				
16											63	59	70	62	69	62	66	61	-	-				
17											64	58	70	62	68	61	65	58	-	-				
18											66	61	72	62	69	62	62	58	-	-				
19											67	63	71	61	69	62	62	55	-	-				
20											64	58	70	62	65	61	64	57	-	-				
21											64	57	70	62	64	59	67	57	-	-				
22											67	60	68	62	64	56	69	62	-	-				
23											68	60	68	60	67	60	68	61	-	-				
24											67	61	65	59	69	61	68	60	-	-				
25											67	61	68	60	67	60	67	61	-	-				
26											67	61	67	60	67	62	67	60	-	-				
27											67	61	67	62	65	60	65	58	-	-				
28											67	60	69	59	66	60	65	59	-	-				
29											67	60	73	62	63	60	65	58	-	-				
30											69	61	69	62	65	57	65	58	-	-				
31													67	61	66	58			-	-				
Av.											64.4	59.1	68.3	60.8	67.9	60.6	66.0	59.2	62.8	58.6				

TABLE 35

Daily Maximum and Minimum Water Temperatures, Anderson-Cottonwood Irrigation District Canal west of Cottonwood
Thermograph located on Anderson-Cottonwood Irrigation District Canal two miles southwest of Cottonwood, Tehama County, California
Sec. 16, T. 29 N., R. 4 W., Mt. Diablo B. & M.
Temperature, in degrees Fahrenheit, 1948

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
									Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.				
1									-	-	78	64	67	63	69	62	62	58	60	56				
2									-	-	73	63	69	63	69	63	64	58	59	57				
3									-	-	63	58	65	60	67	62	63	59	59	57				
4									-	-	58	55	63	59	67	61	64	60	58	57				
5									-	-	58	54	60	55	67	61	64	60	58	54				
6									-	-	63	53	59	54	66	61	64	60	59	55				
7									-	-	72	60	63	57	64	60	66	61	60	56				
8									-	-	78	65	64	58	64	60	65	60	61	57				
9									-	-	69	61	64	59	64	60	66	60	60	57				
10									-	-	63	59	67	61	64	60	66	60	60	57				
11									-	-	63	58	68	63	64	59	65	60	60	57				
12									-	-	63	58	68	62	65	59	65	60	61	57				
13									-	-	63	58	69	63	66	60	65	59	58	56				
14									60	54	63	58	71	64	66	61	64	60	58	56				
15									60	54	62	57	72	65	68	61	61	58	59	56				
16									63	58	66	57	71	65	65	60	59	56	59	56				
17									60	55	62	60	72	65	65	60	55	55	59	56				
18									55	52	62	57	73	65	65	61	59	55	59	56				
19									52	50	65	59	69	64	66	61	61	57	59	55				
20									55	50	66	62	69	64	66	61	61	57	57	54				
21									59	52	65	59	67	62	64	62	60	57	-	54				
22									62	55	65	59	67	62	61	57	59	57	-	-				
23									65	58	66	60	67	62	61	56	59	55	-	-				
24									64	59	68	60	67	61	62	58	58	55	-	-				
25									65	60	70	63	66	61	63	58	56	54	-	-				
26									64	60	70	63	65	61	63	59	58	54	-	-				
27									58	55	70	64	66	61	63	59	59	54	-	-				
28									57	53	70	64	66	60	62	58	60	56	-	-				
29									56	52	68	63	69	62	63	58	60	56	-	-				
30									59	52	67	63	68	63	63	58	59	55	-	-				
31									66	56			68	63	63	59			-	-				
Av.									60.0	54.7	66.3	59.8	67.0	61.5	64.6	59.8	61.5	57.5	59.1	56.0				

TABLE 36

Daily Afternoon and Morning Water Temperatures, Battle Creek at Old Battle Creek Hatchery
Hand thermometer readings taken one mile upstream from mouth of Battle Creek, Tehama County, California
Sec. 11, T. 29 N., R. 3 W., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1939

	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
Date	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM
1	46	46	44	42	48	43	59	54	62	56	66	60	68	63	74	67	65	59	62	58	56	51	50	48
2	48	46	42	42	49	47	61	56	62	57	66	61	67	62	73	66	64	59	58	55	54	52	50	47
3	50	48	45	42	50	47	62	56	63	56	65	61	67	63	72	65	66	59	58	54	54	50	50	48
4	48	48	46	43	50	46	60	55	63	57	63	57	68	62	72	65	65	60	59	55	54	50	50	46
5	48	48	45	44	48	45	60	55	63	58	63	57	67	62	72	65	65	60	56	55	54	48	48	46
6	46	46	46	44	50	48	60	55	63	57	64	60	68	61	72	65	65	59	58	54	54	48	50	47
7	45	44	46	44	48	46	62	55	65	58	66	59	70	64	73	66	65	58	57	53	54	50	50	48
8	46	44	46	42	47	46	60	55	65	60	67	62	71	63	72	66	65	58	58	53	53	48	50	51
9	46	44	45	42	47	46	59	54	62	60	70	62	71	64	72	65	66	58	58	55	53	48	55	52
10	48	44	46	42	52	46	59	54	64	60	70	62	71	66	71	65	65	60	60	55	53	49	54	53
11	48	46	45	42	49	49	60	55	64	58	70	64	71	64	71	64	64	63	60	56	53	49	49	48
12	48	46	48	47	52	49	59	55	65	59	70	64	72	64	72	65	61	61	61	56	52	50	48	46
13	46	46	46	44	52	49	53	52	66	59	70	64	71	64	72	65	61	57	60	57	50	49	50	47
14	47	44	48	45	52	50	58	54	66	59	66	63	71	63	72	65	62	56	60	56	52	47	48	47
15	48	46	50	46	54	48	60	53	66	63	60	61	72	63	72	65	64	57	60	56	50	47	50	48
16	44	43	48	46	57	52	61	56	66	61	60	57	71	63	71	63	63	57	58	55	50	47	50	50
17	46	44	50	46	58	52	61	57	66	60	62	55	72	64	72	64	63	58	57	54	50	46	50	49
18	46	44	51	47	58	53	63	58	60	57	64	58	72	64	72	65	66	57	57	54	50	46	50	46
19	46	44	50	48	59	54	65	58	61	53	66	60	72	63	70	64	66	61	57	53	52	46	48	48
20	48	45	47	45	58	55	64	58	46	57	68	62	72	63	63	60	66	63	59	54	50	48	50	48
21	49	46	48	44	58	54	63	60	58	54	70	63	72	64	70	60	67	61	59	55	50	48	46	46
22	47	45	50	45	58	54	60	58	57	55	71	64	72	64	70	64	67	64	58	55	52	48	46	44
23	47	44	50	46	58	54	60	57	61	54	69	62	72	65	70	64	66	61	59	55	51	49	47	45
24	47	44	50	46	60	56	60	56	63	57	70	62	72	65	70	63	66	62	55	55	50	48	48	46
25	46	44	50	45	59	54	61	56	64	60	71	65	72	65	70	62	61	61	52	49	54	48	48	44
26	46	46	48	44	54	54	61	56	67	60	70	63	73	66	68	60	61	60	52	48	52	50	47	44
27	48	46	48	44	55	50	62	56	68	62	71	63	73	66	65	59	61	58	56	51	50	47	46	46
28	47	44	48	45	55	50	63	58	68	63	72	64	74	67	62	58	62	59	58	53	49	46	47	46
29	46	47			55	52	62	58	70	63	72	64	73	67	65	59	63	58	58	54	50	47	49	48
30	46	46			57	50	62	56	66	61	70	62	72	67	66	60	62	58	56	54	50	46	51	50
31	46	44			58	52			66	61			72	66	66	59			56	54			51	51
Av.	46.9	45.2	47.3	44.3	53.7	50.0	60.7	55.9	63.4	58.5	67.4	61.4	71.0	64.1	70.1	63.3	64.1	59.5	57.8	54.2	51.9	48.2	49.2	47.5

TABLE 37

Daily Afternoon and Morning Water Temperatures, Battle Creek at Old Battle Creek Hatchery
Hand thermometer readings taken one mile upstream from mouth of Battle Creek, Tehama County, California
Sec 11, T. 29N., R. 3W, Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1940

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.		Nov.		Dec.	
										4PM	8AM	4PM	8AM	4PM	8AM
1															
2										-	-	56	56	52	48
3										-	-	55	54	51	48
4										-	-	58	57	51	48
5										-	-	51	50	50	47
6										-	-	50	50	52	48
7										-	-	52	50	52	48
8										-	-	54	53	50	47
9										-	-	54	53	49	47
10										61	58	54	52	50	46
11										60	57	50	47	49	47
12										62	57	51	49	48	46
13										61	56	51	48	44	42
14										61	56	53	50	44	41
15										69	56	52	49	43	40
16										69	55	53	48	44	40
17										58	55	53	49	47	45
18										60	55	53	50	50	48
19										59	54	49	48	50	50
20										59	55	49	46	48	47
21										60	56	48	46	50	50
22										62	57	49	45	52	52
23										58	56	48	44	49	48
24										58	57	49	47	51	48
25										56	56	48	46	49	49
26										56	55	49	46	48	47
27										57	53	50	47	50	49
28										57	54	50	47	49	49
29										54	50	52	49	47	46
30										56	51	52	48	50	48
31										54	52	52	46	50	49
Av.										56	56			46	45
										59.3	55.1	51.3	49.0	48.9	46.9

TABLE 38

Daily Afternoon and Morning Water Temperatures, Battle Creek at Old Battle Creek Hatchery
Hand thermometer readings taken one mile upstream from mouth of Battle Creek, Tehama County, California
Sec. 11, T. 29 N., R. 3 W, Mt. Diablo B. & M.
Temperature, in degrees Fahrenheit, 1941

	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
Date	5 PM	8AM	4 PM	8 AM	4PM	8AM	4 PM	8AM	4PM	8AM	4PM	8AM	4PM	8AM	4PM	8AM	4PM	8AM	4PM	8AM	4PM	8AM	4PM	8AM
1	46	43	49	49	50	48	53	51	62	58	64	56	70	64	-	-	-	-	58	54	53	52	54	46
2	45	42	49	47	48	48	51	49	56	56	64	58	70	64	-	-	-	-	58	56	54	52	54	54
3	43	43	49	46	46	46	51	49	56	54	64	58	70	64	-	-	-	-	60	56	55	54	50	48
4	44	44	49	46	50	46	49	51	55	53	66	58	70	64	-	-	-	-	58	56	57	54	48	45
5	44	45	48	48	52	48	50	48	59	55	64	60	72	66	-	-	-	-	56	54	56	54	48	46
6	46	45	50	49	53	47	54	52	60	56	64	58	72	66	-	-	-	-	56	52	56	54	46	46
7	46	46	50	47	53	49	56	52	60	56	63	57	-	-	-	-	-	-	56	52	56	54	45	45
8	50	47	50	49	54	48	56	50	62	56	63	57	-	-	-	-	-	-	56	52	54	53	45	45
9	49	48	52	50	56	50	57	53	64	56	64	58	-	-	-	-	64	58	57	51	55	53	48	46
10	50	47	52	52	56	50	52	48	64	58	64	58	-	-	-	-	63	59	56	52	54	53	48	46
11	50	48	48	50	56	50	54	46	62	60	68	62	-	-	-	-	62	58	55	51	54	52	48	46
12	49	47	47	47	56	50	58	50	56	58	68	62	-	-	-	-	61	57	56	54	53	52	50	48
13	50	49	48	47	56	52	61	51	60	56	68	64	-	-	-	-	62	56	54	52	54	53	50	48
14	49	47	46	46	57	51	60	52	62	56	65	63	-	-	-	-	62	56	54	52	56	52	50	48
15	47	47	50	48	54	48	58	50	62	54	63	61	-	-	-	-	62	56	54	53	56	54	51	49
16	48	47	54	50	54	50	56	52	62	56	63	61	-	-	-	-	62	56	56	54	54	54	50	50
17	48	47	50	49	56	54	54	48	61	57	64	58	-	-	-	-	62	58	58	54	54	48	48	46
18	49	48	49	47	56	52	58	48	58	52	66	62	-	-	-	-	56	56	58	56	50	48	49	48
19	48	48	49	47	53	51	56	48	60	52	64	60	-	-	-	-	60	52	58	56	48	46	49	49
20	49	47	50	48	52	48	57	51	65	55	64	58	-	-	-	-	58	52	56	54	48	44	48	50
21	48	49	52	50	54	48	60	50	66	58	64	60	-	-	-	-	58	54	55	53	48	44	46	48
22	49	48	55	51	56	50	60	54	68	60	62	60	-	-	-	-	59	55	56	54	48	44	46	44
23	48	48	53	53	54	50	62	54	68	62	64	58	-	-	-	-	59	55	56	52	48	46	45	45
24	49	48	52	60	53	49	63	57	68	62	64	58	-	-	-	-	58	55	56	52	48	44	44	44
25	50	50	52	48	54	48	63	57	65	61	64	58	-	-	-	-	58	54	56	54	48	46	44	44
26	51	49	50	48	54	50	62	56	62	60	64	60	-	-	-	-	60	54	54	54	48	46	42	42
27	48	46	52	50	55	53	60	54	64	56	66	58	-	-	-	-	60	56	54	54	48	46	41	41
28	48	46	52	51	53	52	61	57	58	56	66	62	-	-	-	-	58	54	55	53	52	48	43	41
29	49	47			54	52	57	57	58	54	68	62	-	-	-	-	58	56	54	52	52	50	44	44
30	49	46			52	52	60	54	60	56	68	62	-	-	-	-	60	56	53	51	54	54	44	42
31	49	47			52	50			62	56			-	-	-	-			52	50			44	42
Av.	48.0	46.7	50.2	49.0	53.5	49.7	56.9	51.7	61.4	56.6	64.8	59.6	70.7	64.7	-	-	60.1	55.6	55.8	53.2	52.4	50.1	47.2	46.

TABLE 39

Daily Afternoon and Morning Water Temperatures, Battle Creek at Old Battle Creek Hatchery
Hand thermometer readings taken one mile upstream from mouth of Battle Creek, Tehama County, California
Sec. 11, T. 29 N., R. 3 W, Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 19 42

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	4 PM	8 AM	4 PM	8 AM	4 PM	8 AM	4 PM	8 AM	4 PM	8 AM	4 PM	8 AM	4 PM	8 AM	4 PM	8 AM	4 PM	8 AM	4 PM	8 AM	4 PM	8 AM	4PM	8AM
1	39	39	48	48	50	46	56	50	52	46	64	57	72	66	-	-	65	60	61	57	52	50	52	48
2	40	38	49	48	48	48	54	52	52	48	63	58	72	66	-	-	63	61	60	56	54	50	53	52
3	42	40	48	47	51	47	54	52	58	52	64	57	70	66	-	-	65	60	60	56	54	54	50	48
4	42	39	48	47	52	48	53	50	56	50	65	59	68	64	-	-	65	61	60	56	52	50	48	46
5	42	40	48	47	53	50	53	50	58	50	65	59	70	64	-	-	65	61	60	56	50	48	46	44
6	43	40	48	47	52	48	54	50	59	52	64	59	70	64	-	-	66	60	62	56	50	48	46	46
7	44	44	48	46	50	46	54	50	60	56	64	58	70	64	-	-	64	60	62	56	50	48	47	47
8	45	43	48	44	52	48	54	50	60	56	63	58	70	62	67	63	62	60	62	56	50	48	48	48
9	46	44	48	45	54	50	54	52	56	56	63	58	70	62	67	63	62	58	60	56	50	48	47	47
10	46	44	48	46	53	53	54	52	52	50	63	58	70	65	67	63	62	58	58	56	50	48	49	47
11	47	45	48	46	52	50	58	52	52	52	62	57	68	64	67	63	62	58	58	56	52	48	48	46
12	46	44	48	46	52	50	58	54	52	50	65	58	66	62	68	63	63	59	56	54	52	48	47	47
13	46	44	48	44	49	47	56	53	56	50	66	58	66	62	70	64	64	58	56	52	52	50	48	46
14	46	46	46	42	48	46	56	52	55	53	66	61	66	64	70	65	64	58	54	52	52	52	48	48
15	46	45	47	43	49	43	52	46	56	52	67	62	66	64	70	65	64	60	54	52	52	52	48	48
16	46	44	46	45	50	46	50	52	58	53	68	60	68	64	71	65	64	60	58	54	50	50	48	48
17	46	44	46	44	52	48	48	48	58	53	65	59	68	64	71	67	64	58	56	52	50	48	48	48
18	46	44	46	46	52	48	52	48	59	54	65	59	70	65	70	65	61	57	56	54	50	50	47	47
19	46	44	46	46	52	46	56	50	63	55	64	58	72	66	68	64	60	56	58	54	48	48	46	46
20	46	45	48	46	53	47	57	52	63	59	65	58	72	64	68	63	62	56	54	52	46	44	46	46
21	46	44	48	46	53	49	52	52	65	60	65	59	72	66	70	64	62	56	58	52	48	46	46	44
22	48	44	44	43	53	49	58	52	63	59	66	60	-	-	70	64	62	56	58	54	50	48	46	46
23	48	50	46	44	53	49	54	52	62	59	65	61	-	-	70	66	62	56	54	54	50	48	44	44
24	50	48	48	46	52	48	56	50	60	58	66	62	-	-	69	65	62	58	56	54	52	50	48	46
25	52	48	47	43	52	48	54	52	58	54	64	61	-	-	68	64	62	58	56	54	50	50	46	46
26	50	48	46	44	54	48	54	48	57	51	64	58	-	-	66	64	62	58	56	54	48	48	44	44
27	48	50	46	43	54	50	52	50	54	52	65	59	-	-	66	60	62	58	54	52	50	48	44	44
28	46	46	48	44	54	50	50	48	57	53	68	60	-	-	63	59	62	58	52	50	50	50	46	46
29	46	42			54	48	52	48	60	52	70	64	-	-	64	58	61	57	52	50	51	51	46	46
30	46	44			55	49	53	48	60	53	70	64	-	-	64	58	60	56	52	50	54	52	46	46
31	46	46			52	52			61	54			-	-	66	60			52	50			48	46
Av.	45.6	44.0	47.2	45.2	51.9	48.2	53.9	50.5	57.8	53.3	65.1	59.3	69.3	64.2	67.9	63.1	62.8	58.3	56.9	53.6	50.6	49.1	47.2	46.5

TABLE 40

Daily Afternoon and Morning Water Temperatures, Battle Creek at Old Battle Creek Hatchery

Hand thermometer readings taken one mile upstream from mouth of Battle Creek, Tehama County, California

Sec. 11, T. 29 N., R. 3 W., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1943

	Jan.		Feb.		Mar.		Apr.		May		June		July	Aug.	Sept.	Oct.	Nov.	Dec.
Date	4 PM	8 AM	4 PM	8 AM	4 PM	8 AM	4 PM	8 AM	4 PM	8 AM	4 PM	8 AM						
1	49	48	46	44	50	46	56	50	56	52	60	56						
2	48	46	46	46	52	48	56	52	58	54	58	54						
3	44	44	48	46	50	48	58	54	60	52	61	55						
4	46	44	48	48	52	50	56	54	60	56	62	56						
5	46	44	50	46	52	50	54	52	60	54	62	56						
6	46	44	48	46	52	50	56	52	59	55	63	57						
7	46	44	48	48	51	49	54	53	60	54	64	62						
8	46	44	44	42	53	51	52	50	58	54	66	62						
9	46	44	44	42	52	52	52	48	60	54	66	62						
10	46	44	46	42	54	52	53	48	61	55	66	62						
11	46	44	46	44	52	48	57	50	60	54	64	60						
12	46	44	48	44	50	48	58	50	60	58	61	59						
13	46	44	50	46	52	52	60	52	58	54	61	57						
14	48	46	50	48	52	48	61	56	58	54	64	58						
15	48	44	50	48	48	46	56	56	56	52	66	60						
16	46	44	50	48	48	46	58	52	56	52	68	62						
17	44	42	52	50	47	46	58	54	58	52	68	63						
18	42	40	52	50	50	46	58	56	60	54	65	64						
19	42	40	52	50	50	46	58	56	61	57	63	61						
20	38	38	52	50	50	46	53	53	61	57	60	60						
21	47	45	51	51	51	49	56	52	62	58	62	60						
22	46	44	51	51	54	50	56	52	68	60	64	58						
23	46	44	50	48	54	50	58	53	68	60	64	58						
24	45	43	48	48	54	50	58	52	68	62	-	-						
25	46	46	46	44	56	52	56	53	68	62	-	-						
26	46	46	48	46	58	52	54	52	68	62	-	-						
27	48	46	50	48	57	53	52	52	68	62	-	-						
28	48	46	50	46	57	53	52	52	68	62	-	-						
29	46	48			54	50	56	50	64	60	-	-						
30	48	46			48	46	54	51	60	60	-	-						
31	46	44			50	48			58	56								
Av.	45.8	44.2	48.7	46.8	51.8	49.2	55.9	52.2	61.3	56.4	63.4	59.2						

TABLE 41

Daily Afternoon and Morning Water Temperatures, Battle Creek near Mouth*

Hand thermometer readings taken one-half mile upstream from mouth of Battle Creek, Tehama County, Calif.
Sec. 11, T. 29 N., R. 3 W, Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1948

Date	Jan.		Feb.		Mar.		Apr.		May		June	July	Aug.	Sept.	Oct.	Nov.		Dec.	
	5PM	8AM	5PM	8AM	5PM	8AM	5PM	8AM	5PM	8AM						5PM	8AM	5PM	8AM
1	47	46	46	44	50	48	51	46	50	46								45	42
2	47	46	46	44	50	48	51	47	50	47						-	-	45	42
3	-	46	46	44	50	47	51	47	52	47						-	-	45	42
4	47	-	46	43	50	46	52	47	52	48						-	-	45	42
5	-	46	44	43	50	45	52	48	59	48						-	-	45	42
6	48	-	44	42	49	45	52	48	59	55						-	-	45	42
7	48	46	44	42	49	45	50	46	-	55						-	-	45	42
8	-	46	44	42	49	45	53	46	-	-						-	-	45	42
9	48	-	44	43	49	45	48	48	-	-						-	-	45	42
10	47	46	44	42	52	45	48	46	-	-						-	-	45	42
11	47	46	45	42	52	46	50	46	-	-						-	-	45	42
12	47	45	45	43	52	46	50	47	-	-						-	-	45	42
13	47	46	45	43	50	46	50	46	-	-						-	-	45	42
14	47	45	45	43	50	45	51	46	-	-						-	-	45	42
15	47	46	45	43	48	46	-	47	-	-						-	-	45	42
16	47	45	45	43	47	45	-	-	-	-						-	-	45	42
17	47	45	45	43	47	45	51	-	-	-						51	-	45	42
18	47	45	45	44	47	45	51	48*	-	-						51	47	45	42
19	47	45	45	44	47	45	51	48	-	-						51	47	45	42
20	47	45	46	43	47	45 *	52	47	-	-						51	47	45	42
21	47	45	47	44	47	45	53	49	-	-						51	47	45	42
22	47	45	51	46	47	45	53	50	-	-						51	47	45	42
23	47	45	50	49	47	45	53	50	-	-						51	47	43	42
24	48	45	49	48	-	45	53	50	-	-						51	47	43	39
25	50	47	50	45	-	-	53	50	-	-						51	47	43	39
26	50	47	50	46	46	-	53	-	-	-						51	47	43	39
27	49	47	50	46	48	44	53	50	-	-						51	47	43	39
28	48	45	50	47	49	46	-	50	-	-						51	47	44	41
29	48	45	50	48	49	47	-	-	-	-						51	47	45	42
30	46	45			50	47	49	-	-	-						45	47	45	42
31	46	44			50	46			-	-						45	42	45	42
																		45	42
Av.	47.4	45.5	46.4	44.1	48.9	45.6	51.3	47.7	53.7	49.4						50.2	46.6	44.6	41.6

* From March 20 to April 18, temperatures were taken two miles upstream.

TABLE 42

Daily Afternoon and Morning Water Temperatures, Mill Creek near Los Molinos
Thermograph located one mile north of Los Molinos, Tehama County, California
Sec. 5, T. 25 N., R. 2 W., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1947 and 1948

	1947		1948					
	Dec.		Jan.		Feb.		Mar.	
Date	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM	5 PM	8 AM
1	-	-	40	40	43	39	49	43
2	52	45	43	41	43	39	50	44
3	49	45	45	46	42	37	49	42
4	47	45	49	46	42	38	47	41
5	47	42	49	50	39	38	50	42
6	46	40	49	49	40	39	48	42
7	46	40	50	49	43	38	49	45
8	43	40	50	51	42	39	50	45
9	43	39	56	54	42	41	48	44
10	43	37	44	44	43	41	51	44
11	41	40	45	42	43	37	51	43
12	43	39	42	41	42	35	51	45
13	43	39	43	42	41	36	50	47
14	43	40	45	42	42	38	49	45
15	43	41	45	42	-	-	50	42
16	45	42	43	42	-	-	49	43
17	44	44	45	42	-	-	45	43
18	46	44	44	42	-	-	48	45
19	44	44	45	40	-	-	47	43
20	45	44	44	39	-	-	50	43
21	45	46	44	40	-	-	47	45
22	48	47	44	42	49	47	52	47
23	50	45	46	44	50	49	52	47
24	47	43	49	44	47	42	-	44
25	46	44	48	43	47	42	-	-
26	45	43	46	40	49	44	-	-
27	45	43	43	37	51	45	-	-
28	44	44	40	37	49	44	-	-
29	45	41	41	39	50	44	-	-
30	44	38	41	39			-	-
31	41	38	42	38			-	-
Av.	45.1	42.0	45.1	42.8	44.5	40.5	49.2	43.9

TABLE 43

Daily Afternnon Water Temperatures, Deer Creek near Vina

Hand thermometer readings taken two miles northeast of Vina, Tehama County, California
Sec. 31, T. 25 N., R. 1 W., Mt. Diablo B. & M.

Temporature, in degrees Fahronheit, 1941 and 1942

	1941			1942		
	May	June	July	May	June	July
Date	4 PM	4 PM	4 PM	4 PM	4 PM	4 PM
1	-	63	80	55	65	82
2	-	64	78	56	64	82
3	-	64	79	60	66	83
4	-	67	80	58	67	-
5	-	66	82	60	68	-
6	-	66	82	63	67	-
7	-	65	84	63	67	-
8	-	67	82	63	67	-
9	-	70	84	56	68	-
10	-	74	84	55	68	-
11	-	74	-	54	67	-
12	-	77	82	53	69	-
13	-	76	81	58	71	-
14	-	72	79	-	72	-
15	-	72	83	58	70	-
16	-	68	79	60	71	-
17	-	70	-	62	71	-
18	-	72	-	62	70	-
19	-	69	81	63	71	-
20	66	72	83	67	71	-
21	67	70	-	67	71	-
22	70	64	86	65	73	-
23	70	71	78	64	75	-
24	68	67	80	63	75	-
25	67	69	79	60	72	-
26	62	70	75	57	71	-
27	64	70	75	63	72	-
28	60	73	79	58	76	-
29	60	76	79	60	78	-
30	61	79	80	61	79	-
3.	63		81	63		-
Av.	64.8	69.9	80.5	60.2	70.4	82.3

TABLE 44

Daily Maximum and Minimum Water Temperatures, Deer Creek near Vina
Thermograph located two miles northeast of Vina, Tehama County, California
Sec. 31, T. 25 N., R. 1 W., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1943 and 1944

	1943										1944											
	Mar.		Apr.		May		June		July		Jan.		Feb.		Mar.		Apr.		May		June		July	
Date	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	-	-	58	47	62	51	64	56	80	65	-	-	47	46	47	42	65	49	66	55	68	58	83	66
2	-	-	59	48	62	53	66	54	80	65	-	-	47	46	48	40	63	51	67	55	61	56	83	65
3	-	-	58	50	65	55	64	54	81	66	-	-	46	44	45	43	60	52	66	56	67	53	-	66
4	-	-	57	51	65	56	66	53	85	66	-	-	46	42	46	44	55	52	67	55	73	57	-	-
5	-	-	57	52	64	54	67	56	84	67	-	-	51	47	48	41	58	47	69	56	76	61	-	-
6	-	-	58	48	65	54	69	55	85	68	-	-	53	45	48	43	55	47	70	58	79	63	-	-
7	-	-	54	50	63	53	73	56	85	68	-	-	51	46	52	45	58	47	70	59	78	64	-	-
8	-	-	53	48	63	52	72	61	85	67	-	-	50	47	56	45	56	48	68	58	73	60	-	-
9	-	-	52	43	65	53	75	60	87	67	-	-	49	43	54	48	57	45	68	56	74	62	-	-
10	-	-	55	45	66	55	74	62	88	69	43	-	49	40	56	47	58	49	65	55	78	63	-	-
11	-	-	59	47	63	53	73	61	87	70	47	39	49	40	51	47	56	50	63	53	80	65	-	-
12	-	-	62	50	63	52	69	60	85	67	47	39	48	39	52	48	57	48	60	54	80	66	-	-
13	-	-	64	52	64	52	73	58	-	-	45	38	48	38	52	44	51	47	68	52	77	63	-	-
14	-	-	64	54	62	51	75	60	-	-	49	41	48	40	48	39	57	47	62	56	65	62	-	-
15	-	-	56	55	62	50	78	61	-	-	50	39	50	40	52	38	57	49	65	52	66	58	-	-
16	-	-	62	54	62	49	-	63	-	-	48	43	49	37	56	42	57	46	62	51	72	57	-	-
17	-	-	62	54	65	51	-	65	-	-	52	40	51	38	60	46	54	46	55	52	71	58	-	-
18	-	-	62	53	67	54	77	66	-	-	52	40	49	37	58	47	58	45	66	50	71	61	-	-
19	-	-	61	54	67	55	77	61	-	-	49	37	50	41	56	46	54	50	71	54	75	59	-	-
20	-	-	55	51	68	55	74	61	-	-	49	38	51	40	54	43	53	44	76	56	76	61	-	-
21	-	-	55	51	71	56	75	60	-	-	48	38	43	42	56	42	57	43	77	59	76	61	-	-
22	-	-	60	50	74	60	73	58	-	-	48	39	46	41	58	43	61	47	74	59	78	62	-	-
23	-	-	63	53	77	62	74	59	-	-	47	44	50	43	56	46	59	52	75	56	80	64	-	-
24	55	-	61	52	80	64	70	59	-	-	49	41	51	40	59	45	60	50	76	57	75	63	-	-
25	57	48	60	52	79	65	73	56	-	-	47	38	50	40	56	44	58	48	79	58	79	64	-	-
26	60	52	56	50	80	66	76	58	-	-	42	36	52	41	58	41	53	50	85	60	80	66	-	-
27	-	-	52	51	77	64	80	61	-	-	46	37	50	40	60	42	61	49	76	62	80	66	-	--
28	57	-	54	51	78	63	81	65	-	-	42	35	46	43	62	44	62	52	80	62	82	65	-	-
29	59	49	56	47	75	63	80	65	-	-	44	39	45	42	64	45	63	55	75	62	83	66	-	-
30	53	51	55	53	66	62	80	64	-	-	44	42			64	49	66	55	72	60	83	66	-	-
31	54	44			60	59			-	-	49	44			65	49			64	61			-	-
Av.	56.4	48.8	58.1	50.5	67.7	56.1	73.1	59.7	84.3	67.1	47.2	39.4	48.8	41.7	54.7	44.2	58.0	48.7	69.6	56.5	75.0	61.7	83.0	65.7

TABLE 45

Daily Afternoon and Morning Water Temperatures, Deer Creek near Vina

Hand thermometer readings taken two miles northeast of Vina, Tehama County, California
Sec. 31, T. 25N., R 1W., Mt. Diablo B.&M.

Temperature, in degrees Fahrenheit, 1945

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.
	5PM	8AM	5PM	8AM	5PM	8AM	5PM	8AM	5PM	8AM	5PM	8AM	5PM	8AM	5PM	8AM	5PM	8AM	5PM	8AM	5PM	8AM	
1	46	41	51	49	48	43	-	-	68	58	70	58	83	69									
2	43	41	48	47	48	42	-	45	68	59	68	60	-	71									
3	43	41	49	46	49	44	53	44	70	59	-	-	87	-									
4	42	41	-	-	-	-	55	40	69	60	67	60	88	73									
5	43	-	50	48	49	40	56	46	68	59	68	60	87	73									
6	47	41	48	45	50	42	58	48	-	-	69	62	89	74									
7	-	43	48	46	50	42	52	49	70	60	68	58	-	74									
8	47	-	51	48	53	43	-	-	69	60	70	58	85	73									
9	47	44	-	45	50	43	54	44	-	59	72	60	80	-									
10	49	45	50	44	54	43	51	45	68	60	71	60	87	71									
11	-	-	-	-	-	-	-	48	67	59	74	62	87	73									
12	48	45	52	47	50	47	-	-	-	58	76	63	-	-									
13	50	45	50	47	55	47	56	46	-	-	74	63	87	72									
14	-	-	50	47	50	47	-	47	59	54	72	61	87	-									
15	50	45	48	42	50	46	-	-	-	55	74	60	86	72									
16	48	44	-	43	-	44	63	47	-	-	76	62	88	74									
17	43	43	50	44	-	43	62	54	-	56*	80	64	87	75									
18	46	41	-	-	-	-	64	54	57*	55	82	66	87	72									
19	44	39	48	42	47	44	-	-	-	50	84	68	88	68									
20	43	37	47	42	47	45	65	56	-	-	84	70	83	70									
21	-	-	49	-	54	45	63	56	62	55	83	70	86	73									
22	43	36	50	43	47	47	-	-	60	54	80	68	-	-									
23	43	36	50	43	51	43	61	53	60	55	78	68	-	-									
24	43	36	50	42	50	43	-	-	-	55	-	67	-	-									
25	43	39	-	-	-	-	56	54	63	54	71	67	-	-									
26	46	37	50	41	58*	45	59	50	65	55	79	66	-	-									
27	46	40	50	42	51	45	-	52	64	55	78	66	-	-									
28	-	-	51	42	52	45	65	54	63	-	80	65	-	-									
29	47	41			55	47	-	-	66	55	81	68	-	-									
30	45	43			56	47	67	56	58	56	80	66	-	-									
31	45	45			59	50			65	56			-	-									
Av.	45.4	41.0	49.5	44.6	51.3	44.5	59.0	49.4	64.7	57.0	753	63.6	86.2	72.2									

* Temperatures taken at 12 noon.

TABLE 46

Daily Afternoon and Morning Water Temperatures, Deer Creek near Vina

Hand Thermometer Readings taken two miles northeast of Vina, Tehama County, California

Sec. 31, T. 25N., R 1W., Mt. Diablo B.&M.

Temperature, in degrees Fahrenheit, 1946

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	5 PM	8 AM	5PM	8AM	5PM	8AM	5PM	8AM	5PM	8AM	5PM	8AM									5PM	8AM	5PM	8AM
1	-	-	48	37	51	45	53	45	61	54	73	63									-	-	51	49
2	-	-	42	40	49	46	52	46	63	56	76	64									-	-	50	49
3	47	46	43	40	49	44	53	47	64	56	75	65									-	-	51	49
4	46	46	43	39	49	42	58	49	67	57	70	64									-	-	51	49
5	46	45	40	39	49	44	57	49	66	57	72	62									-	-	50	49
6	44	42	41	40	56	45	55	49	65	58	72	62									-	-	49	48
7	44	42	46	40	55	47	54	49	64	58	70	62									-	-	49	49
8	-	40	43	38	56	48	52	49	64	55	74	63									-	-	49	49
9	42	40	44	39	54	48	56	49	64	56	72	62									-	-	49	48
10	42	40	42	40	52	50	57	49	63	59	74	62									-	-	48	46
11	-	41	42	37	50	46	58	51	65	59	75	62									-	-	48	45
12	43	40	42	36	47	41	59	54	64	58	72	63									-	-	48	46
13	43	41	44	37	50	46	59	54	63	58	75	64									-	-	47	46
14	43	39	45	38	48	43	61	53	65	58	75	64									-	-	47	45
15	-	41	43	40	51	44	61	55	67	59	-	63									-	-	-	-
16	42	39	45	40	54	47	68	55	69	60	77	-									-	-	46	42
17	42	39	46	42	54	49	61	56	71	62	73	64									-	-	45	41
18	42	40	-	-	50	49	58	54	72	62	74	66									-	-	44	40
19	43	40	45	43	49	48	64	52	71	64	82	67									55	52	44	39
20	42	39	49	43	47	46	59	51	69	63	82	69									52	44	43	40
21	41	40	49	46	50	46	56	51	65	62	78	67									46	44	45	41
22	42	41	46	44	52	47	58	51	61	57	73	67									50	45	46	42
23	46	42	49	44	-	-	62	54	55	54	71	65									50	46	46	45
24	47	45	51	46	-	-	63	55	64	57	78	74									46	44	46	45
25	49	45	-	46	56	48	63	57	60	59	80	68									-	-	46	45
26	47	43	48	45	58	50	61	47	64	62	80	67									-	-	50	48
27	46	40	49	47	55	52	62	54	-	57	74	67									-	-	48	47
28	44	40	52	46	50	50	61	56	67	59	-	-									-	-	45	42
29	43	40			49	46	61	54	70	59	-	-									-	-	44	42
30	42	37			46	45	59	52	71	60	-	-									-	-	43	39
31	43	38			51	46			71	62													42	37
Av.	43.9	41.1	45.3	41.2	51.3	46.5	58.7	51.6	65.5	58.6	74.9	64.8									49.8	45.2	46.9	44.6

TABLE 47

Daily Water Temperatures, Deer Creek near Vina*

Temperatures taken two miles northeast of Vina, Tehama County, Calif.
Sec. 31, T. 25N., R 1W., Mt. Diablo B.&M.

Temperature, in degrees Fahrenheit, 1947

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	5PM	8AM	5PM	8AM	5PM	8AM	Max	Min	Max	Min	Max	Min	5PM	8AM	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
1	42	39	42	40	50	48	56	-	75	60	68	59	-	-	-	-	76	-	67	64	55	49	53	47
2	42	36	48	41	49	48	49	47	76	63	71	59	-	-	-	-	75	66	67	64	53	46	51	45
3	41	35	50	41	-	47	51	44	75	63	72	59	80	67	-	-	77	67	70	64	52	42	48	44
4	40	35	49	41	50	46	53	43	75	62	71	60	80	67	-	-	77	66	70	66	53	42	47	44
5	41	35	49	43	50	45	53	46	76	62	70	61	81	68	-	-	77	67	69	67	51	39	47	40
6	43	37	49	43	48	44	56	47	74	61	66	61	81	68	-	-	76	68	67	65	50	38	45	39
7	40	38	49	47	48	45	52	47	74	62	63	59	80	68	-	-	76	68	65	61	50	38	43	37
8	43	38	-	46	50	45	52	48	72	60	65	59	80	68	-	-	75	63	61	60	50	37	45	38
9	41	37	47	46	48	48	56	46	72	58	70	57	80	67	-	-	74	63	60	58	50	38	43	37
10	42	38	49	47	50	49	59	47	70	55	72	60	80	67	-	-	73	66	59	57	52	37	43	36
11	42	39	47	47	50	46	61	50	73	57	73	61	80	67	-	-	75	66	60	54	50	38	44	39
12	40	37	51	50	50	46	61	51	71	57	77	61	-	-	-	-	76	67	61	54	50	38	44	37
13	40	38	50	47	54	47	67	53	73	56	78	64	-	-	-	-	76	68	61	55	49	36	43	37
14	42	37	50	47	56	49	69	55	74	58	80	65	83	70	-	-	76	68	62	55	48	37	44	37
15	41	35	51	49	57	50	69	62	76	60	81	66	83	71	-	-	71	65	60	57	48	37	45	39
16	42	35	52	47	59	52	69	58	77	63	73	68	83	70	-	-	72	68	59	56	41	38	44	39
17	41	34	50	45	59	52	65	57	78	64	78	65	81	70	-	-	71	65	51	55	51	38	45	42
18	42	34	50	45	59	53	66	54	79	64	82	68	82	70	72	68	69	64	61	55	50	39	45	41
19	43	35	52	46	59	53	60	55	80	66	80	70	84	70	76	71	68	63	62	56	-	-	44	43
20	44	36	53	45	61	53	67	55	83	67	78	67	84	71	72	68	70	63	60	57	-	-	44	42
21	46	37	52	45	59	53	61	55	84	67	80	68	81	72	72	68	70	63	58	55	-	-	47	44
22	45	38	54	47	54	53	60	53	83	67	81	69	80	70	75	66	-	-	56	53	-	-	50	46
23	45	39	55	47	53	53	62	53	80	67	81	68	76	67	76	67	72	66	57	52	-	-	46	43
24	48	42	55	47	55	49	63	50	78	67	82	69	78	70	76	68	72	67	58	49	-	-	46	42
25	56	54	56	48	54	53	70	54	81	67	78	70	80	70	-	67	72	67	60	53	-	-	44	42
26	49	45	52	48	54	50	69	56	73	67	80	79	80	71	-	-	73	67	60	54	49	-	45	42
27	49	44	53	49	54	51	70	57	72	64	81	68	-	-	-	-	71	66	59	55	52	43	42	41
28	44	42	52	47	55	52	61	57	75	62	81	68	-	-	-	-	70	66	55	52	52	47	44	42
29	42	39			56	53	71	58	77	63	80	67	-	-	72	67	70	65	56	53	54	49	45	39
30	42	40			54	50	74	59	70	65	-	68	-	-	75	66	68	64	55	53	51	48	43	36
31	41	40			54	50			66	61			-	-	75	67			56	49			41	36
Av.	43.2	38.3	50.6	45.7	53.6	49.4	61.4	52.3	75.6	62.4	75.6	64.8	80.8	69.0	74.1	67.5	73.0	65.8	60.7	56.7	50.5	40.6	452	40.5

* Records January through March and from June 19 to August 22 - 8AM and 5PM hand thermometer readings.
Records April 1 through June 18 and from August 23 to December 31 - thermograph maximum and minimum readings.

TABLE 48

Daily Maximum and Minimum Water Temperatures, Deer Creek near Vina
Thermograph located two miles northeast of Vina, Tehama County, California
Sec. 31, T. 25 N., R. 1 W., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1948

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	41	39	45	37	54	42	-	-	-	-	68	55	81	69	85	67	79	62	68	55	52	49	45	36
2	45	41	44	37	53	42	-	-	-	-	68	57	80	66	85	68	79	61	65	54	54	50	43	38
3	45	44	44	35	52	41	-	-	55	-	61	58	77	62	83	67	79	62	65	57	56	50	44	39
4	49	45	39	36	53	40	-	-	60	49	61	56	75	61	82	65	78	63	65	58	52	45	40	35
5	50	48	40	37	49	40	-	-	63	52	57	53	64	60	82	65	79	62	65	55	52	43	39	38
6	50	48	43	38	53	40	-	-	61	53	64	53	73	58	82	65	79	63	66	53	51	44	43	38
7	50	49	45	36	55	42	-	-	56	50	68	57	74	60	81	64	79	64	67	54	51	42	40	39
8	48	45	42	37	48	44	-	-	55	45	71	58	76	59	78	63	80	64	68	54	50	41	46	40
9	47	42	43	39	55	44	-	-	56	46	68	60	79	61	79	64	80	64	68	54	50	40	43	33
10	47	42	46	37	55	43	-	-	60	49	67	59	82	65	80	64	80	62	66	54	51	42	44	38
11	46	40	45	36	54	42	-	-	62	51	68	57	83	66	80	63	80	63	65	57	52	42	46	42
12	46	39	45	34	50	45	-	-	59	52	68	59	82	66	81	64	80	64	66	56	52	43	46	44
13	47	40	43	34	48	45	-	-	61	52	68	57	83	66	81	65	78	63	62	55	51	42	48	41
14	47	40	46	37	50	43	-	-	62	51	70	59	84	67	80	65	75	62	63	55	48	43	43	39
15	46	39	48	42	50	40	-	-	63	51	69	58	87	68	80	64	73	60	65	53	52	47	43	39
16	47	38	54	44	44	43	-	-	64	54	71	58	86	69	78	63	63	59	64	53	49	-	39	38
17	47	39	51	44	52	43	-	-	63	56	72	60	85	69	78	62	67	57	65	53	50	43	42	38
18	48	40	52	47	47	43	-	-	55	50	73	60	86	69	78	64	68	59	64	51	48	41	44	36
19	47	39	54	44	52	41	-	-	52	49	73	61	85	69	78	62	71	58	62	50	45	43	41	34
20	46	38	52	43	51	41	57	50	53	48	73	62	86	68	80	63	71	58	61	50	49	41	42	36
21	47	38	50	45	55	43	49	46	58	47	75	61	85	69	78	64	69	57	62	50	48	40	43	37
22	52	43	54	47	50	47	51	45	63	49	74	62	84	67	71	63	67	57	61	51	48	40	42	34
23	51	42	51	42	-	-	53	43	67	54	76	63	82	66	71	62	67	56	62	50	49	41	39	32
24	48	40	52	40	-	-	55	45	68	57	78	63	81	64	72	62	64	53	63	52	50	43	36	31
25	45	38	52	42	-	-	58	48	68	57	79	64	83	65	79	63	64	51	61	51	47	39	36	34
26	45	36	54	43	-	-	-	-	69	58	80	65	84	68	79	64	64	52	60	48	45	38	38	36
27	-	35	50	43	-	-	-	-	62	55	81	66	83	67	80	64	66	52	54	45	45	36	42	38
28	44	35	52	43	-	-	-	-	57	52	82	67	79	65	80	65	67	52	50	45	43	34	46	40
29	42	34	53	41	-	-	-	-	55	50	84	69	84	64	80	63	68	53	56	48	45	36	43	40
30	44	35			-	-	-	-	56	51	85	71	82	66	77	63	67	53	53	41	43	36	45	38
31	45	35			-	-			57	51			84	67	79	63			51	46			40	39
Av.	43.4	40.2	47.9	40.0	51.4	42.4	53.8	46.2	60.0	51.4	71.7	60.3	81.2	65.3	79.2	63.9	72.7	58.9	62.3	52.9	49.3	41.9	42.3	37.4

TABLE 49

Daily Maximum and Minimum Water Temperatures, Stony Creek northwest of Orland

Thermograph located at U. S. Bureau of Reclamation diversion, five miles northwest of Orland, Tehama County, California
Sec. 29, T. 23 N., R. 4 W., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1946 and 1947

	1946						1947							
	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.	
Date	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	-	-	60	46	53	48	57	46	55	43	56	48	58	47
2	-	-	58	45	57	47	57	46	56	44	60	48	56	47
3	-	-	59	46	54	47	57	46	57	45	56	47	57	47
4	-	-	60	43	58	50	56	45	57	45	58	47	63	52
5	-	-	59	44	58	52	54	45	59	45	58	47	64	52
6	-	-	59	46	55	49	57	45	56	46	57	46	64	52
7	-	-	59	45	57	48	54	45	57	46	56	45	64	52
8	-	-	56	43	58	49	51	43	54	46	57	46	63	52
9	-	-	59	45	59	48	53	43	55	50	53	46	-	51
10	-	-	57	45	60	48	53	43	55	45	58	46	63	51
11	-	-	58	43	59	49	53	43	51	44	58	46	54	51
12	-	-	57	44	57	49	48	42	57	41	58	47	55	53
13	-	-	60	49	58	52	50	42	57	45	59	46	65	53
14	-	-	61	48	56	51	51	41	57	45	60	47	66	54
15	-	-	59	44	58	52	51	41	55	45	60	47	67	55
16	-	-	58	46	59	48	52	41	56	46	61	48	66	56
17	64	52	62	50	58	48	53	41	58	46	61	48	67	56
18	65	52	59	51	59	47	53	42	58	46	59	49	66	55
19	66	50	65	50	59	47	54	43	58	46	60	49	67	55
20	67	53	56	44	55	47	55	43	60	47	52	50	66	56
21	67	55	56	46	55	46	55	43	59	47	62	50	65	55
22	65	53	61	45	58	47	56	44	60	47	59	50	66	55
23	67	52	60	44	58	47	57	44	61	48	61	50	66	60
24	71	54	53	42	56	43	57	45	61	58	61	50	65	55
25	73	57	57	47	58	47	55	45	61	58	61	50	66	55
26	66	51	58	48	59	47	56	46	59	48	60	49	67	55
27	61	49	59	48	58	48	57	45	60	48	51	49	66	56
28	60	47	59	48	58	48	55	45	60	48	58	48	66	55
29	59	44	59	49	57	48	56	45			57	48	62	55
30	59	46	57	48	57	46	51	44			58	48	-	-
31	61	45			56	46	54	44			58	47		
Av.	64.8	50.7	59.0	46.0	57.3	48.0	54.1	43.7	57.4	46.7	58.1	47.8	63.6	53.4

TABLE 50

Daily Maximum and Minimum Water Temperatures, Stony Creek northwest of Orland

Thermograph located at U. S. Bureau of Reclamation diversion, five miles northwest of Orland, Tehama County, California
Sec. 29, T. 23 N., R. 4 W., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1948

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
			Max.	Min.	Max.	Min.	Max.	Min.					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.				
1			-	-	59	46	-	-					-	-	-	-	79	70	71	63				
2			-	-	-	-	-	-					71	-	81	69	79	70	-	62				
3			-	-	-	-	-	-					71	59	81	71	79	70	-	-				
4			-	-	-	-	-	-					69	58	82	72	-	-	69	65				
5			-	-	-	-	54	46					62	58	81	72	-	-	68	63				
6			-	-	-	-	51	44					70	58	82	72	79	70	69	62				
7			-	-	-	-	-	44					69	59	80	-	79	70	70	64				
8			49	-	51	-	-	-					71	59	80	71	80	70	70	63				
9			49	41	61	47	-	-					-	-	82	70	80	70	71	64				
10			51	39	59	40	-	-					75	-	82	72	81	70	-	-				
11			55	42	62	45	-	-					76	66	82	72	-	-	69	65				
12			53	42	55	50	60	49					73	63	-	-	-	-	72	65				
13			-	-	53	50	53	49					73	63	-	-	78	70	71	60				
14			-	-	58	49	51	-					-	-	-	-	77	70	73	65				
15			-	-	56	45	-	-					-	-	-	-	76	68	71	63				
16			-	-	51	49	-	-					-	-	79	69	-	68	-	-				
17			54	49	59	43	-	-					77	-	79	70	-	-	-	-				
18			54	49	55	48	-	-					79	68	-	70	-	-	70	62				
19			57	46	59	42	61	52					76	66	-	-	-	-	68	59				
20			55	46	60	46	63	53					77	66	-	-	76	68	67	58				
21			55	50	54	52	58	51					77	67	-	-	75	67	68	60				
22			-	51	-	-	57	47					77	67	-	-	70	66	66	61				
23			51	-	-	-	-	-					-	-	78	70	71	63	68	60				
24			54	44	49	46	-	-					-	-	78	69	68	61	67	60				
25			57	47	-	42	-	-					-	-	79	69	-	-	66	-				
26			58	47	-	-	59	-					81	71	78	70	-	-	63	56				
27			55	48	-	-	56	52					-	72	-	-	70	64	60	57				
28			57	47	-	-	54	50					79	70	-	-	70	62	61	55				
29			57	46	64	54	50	47					79	70	-	-	71	61	58	54				
30					64	54	-	-					75	67	78	70	70	62	58	51				
31					58	51							-	-	79	70			58	57				
Av.			54.2	45.9	57.7	47.3	55.9	48.7					74.1	64.6	80.0	70.4	75.4	67.1	67.0	60.5				

TABLE 51

Daily Maximum and Minimum Water Temperatures, West Branch of North Fork of Feather River

Thermograph located one mile west of mouth of West Branch of North Fork of Feather River, Butte County, California
Sec. 23, T. 21 N., R. 4 E., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1946 and 1947

	1946				1947																	
	Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.	
Date	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	51	49	49	46	45	38	44	40	50	49	-	-	60	57	64	60	80	72	81	74	-	-	70	-
2	52	47	50	45	44	38	44	40	49	49	48	46	62	60	72	61	80	75	82	75	76	70	70	66
3	51	48	49	48	43	37	44	40	49	48	49	47	62	60	64	61	80	75	82	76	76	70	70	67
4	50	46	50	47	42	35	-	-	48	45	47	44	60	59	66	63	80	72	81	73	76	70	71	68
5	-	-	50	49	42	38	46	42	47	43	47	44	60	58	65	64	80	73	80	71	76	69	70	68
6	50	-	49	48	-	-	47	42	46	43	47	46	61	60	64	63	81	74	80	73	76	70	-	-
7	49	47	49	47	-	-	47	45	46	44	46	49	60	59	63	60	81	75	81	74	77	72	68	-
8	50	46	49	46	43	37	48	47	46	46	48	47	59	58	60	58	81	74	80	74	-	-	67	65
9	50	45	48	43	44	38	49	47	48	46	49	42	59	56	61	58	82	75	81	74	75	70	66	65
10	50	45	47	43	44	39	49	47	47	45	50	46	59	56	64	60	81	75	79	71	74	70	65	63
11	49	46	47	43	45	40	49	47	47	44	51	49	60	55	66	62	81	75	79	71	75	70	62	58
12	48	45	48	44	45	43	49	47	47	43	52	48	60	58	68	63	81	73	79	72	74	69	61	56
13	49	46	47	45	44	41	48	44	47	44	53	50	61	58	70	65	82	75	80	74	75	69	61	-
14	48	47	47	46	42	38	48	45	48	45	54	51	61	57	72	62	82	75	80	74	76	70	63	-
15	49	46	48	46	43	36	49	48	49	46	55	52	63	59	72	69	82	76	80	75	-	69	64	62
16	49	47	48	42	41	35	50	47	49	46	55	54	65	60	72	71	82	76	81	75	73	70	64	57
17	50	49	47	42	41	34	49	45	50	47	54	54	67	62	75	70	82	76	82	74	73	70	59	56
18	51	49	46	40	40	33	47	45	50	48	54	51	68	63	75	71	83	76	82	74	73	68	60	56
19	52	49	46	40	42	36	49	46	51	50	54	53	68	64	77	75	83	78	80	75	70	66	60	57
20	49	46	46	42	42	36	50	46	51	49	55	54	74	65	78	75	83	74	80	76	70	66	61	59
21	48	47	46	41	42	36	50	46	50	48	55	53	75	70	77	75	82	75	79	76	71	66	60	58
22	50	47	46	42	42	36	49	46	51	49	53	52	75	72	77	73	83	76	77	72	71	67	61	55
23	49	46	48	44	43	38	50	47	50	48	54	51	75	73	78	73	82	76	76	71	72	68	59	55
24	48	43	48	46	44	39	-	-	48	45	55	52	74	73	80	73	82	75	77	71	72	68	59	55
25	-	-	49	47	45	41	50	48	50	46	54	52	75	72	80	75	80	75	77	71	74	70	59	56
26	-	-	50	47	47	44	50	50	50	47	55	53	76	72	80	78	81	75	77	71	72	68	60	58
27	-	-	50	47	48	44	50	50	50	49	57	54	73	68	81	77	82	76	77	72	-	-	-	-
28	48	44	49	44	48	46	50	47	50	48	56	56	70	68	82	76	82	76	78	72	-	-	-	-
29	47	43	48	45	46	42			52	50	58	56	71	68	80	74	82	75	75	72	-	-	-	-
30	49	45	47	40	45	44			49	46	59	56	71	68	81	73	82	76	77	71	-	-	-	-
31			45	39	44	40			47	45			69	66			82	75	76	70			-	-
Av.	49.4	46.3	47.9	44.3	43.7	38.7	48.3	45.5	48.8	46.5	52.5	50.1	66.2	63.1	72.1	67.9	81.5	74.9	79.2	73.0	73.8	68.9	63.6	60.0

TABLE 52

Daily Morning Water Temperatures, Feather River at Oroville

Hand thermometer readings taken on north bank of Feather River at Oroville, Butte County, California
Sec. 8, T. 19 N., R. 4 E., Mt. Diablo B. & M.
Temperature, in degrees Fahrenheit, 1946

Date	Jan. 8 A.M.	Feb. 8 A.M.	Mar. 8 A.M.	Apr. 8 A.M.	May 8 A.M.	June 8 A.M.	July 8 A.M.	Aug. 8 A.M.	Sept. 8 A.M.	Oct. 8 A.M.	Nov. 8 A.M.	Dec. 8 A.M.
1	-	38	45	-	54	-	-	68	-	62	-	-
2	45	-	45	-	55	-	70	68	-	61	48	-
3	45	-	44	-	55	-	70	-	67	58	48	-
4	45	-	43	-	-	64	-	-	-	60	46	-
5	45	40	43	52	-	58	-	68	65	57	49	-
6	-	40	47	-	58	62	-	68	64	58	47	-
7	42	41	47	-	58	59	-	69	-	57	46	-
8	42	40	47	49	57	61	73	69	-	57	47	-
9	-	40	-	48	58	60	71	69	68	56	48	-
10	-	-	-	48	58	62	71	-	68	57	46	-
11	41	40	47	50	59	62	73	-	67	57	48	-
12	-	38	46	51	-	62	71	70	67	57	45	-
13	-	38	46	54	58	-	-	-	-	57	45	-
14	40	38	44	-	58	-	-	68	-	58	45	-
15	40	40	45	54	-	-	67	69	65	57	46	-
16	-	42	45	55	-	-	68	-	64	56	47	-
17	40	-	-	56	58	-	68	-	64	55	46	-
18	41	42	48	55	-	68	69	-	64	53	48	-
19	40	42	48	53	-	66	69	68	-	54	48	-
20	-	42	46	52	61	67	-	69	63	53	-	-
21	41	43	-	-	58	65	-	69	63	54	-	41
22	41	44	46	-	56	63	73	69	64	55	-	43
23	42	-	-	55	56	64	73	69	64	55	-	43
24	44	44	-	55	56	63	73	-	64	55	-	45
25	45	45	-	55	56	63	73	-	64	57	-	46
26	-	44	52	53	56	67	-	69	64	55	-	46
27	-	45	50	-	56	67	-	69	64	53	-	47
28	41	46	50	-	58	67	-	68	64	53	-	45
29	40		46	55	-	-	70	67	64	53	-	42
30	39		-	55	-	-	71	67	64	-	-	41
31	38		-		-		70	-		48		39
Av.	41.8	41.5	46.4	52.9	57.1	63.5	70.6	68.5	64.8	55.9	46.9	43.4

TABLE 53

Daily Water Temperatures, Feather River at Yuba City
Temperatures taken one mile south of Yuba City, Sutter County, California
Sec. 20, T. 15 N., R. 3 E., Mt. Diablo B. & M.
Temperature, in degrees Fahrenheit, 1946

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.		Dec.	
	8		8 A.M.	8 A.M.	8 A.M.	8 A.M.					Max.	Min.	Max.	Min.
1			-	49	55	64					-	-	-	-
2			-	49	55	65					-	-	-	-
3			-	48	56	66					-	-	-	—
4			-	49	57	67					-	-	-	-
5			-	48	58	65					-	-	47	46
6			-	52	58	65					-	-	48	47
7			-	49	59	65					-	-	47	46
8			-	51	58	65					-	-	46	46
9			-	50	57	64					-	-	47	45
10			-	51	58	64					-	-	46	45
11			-	51	59	61					-	-	46	45
12			-	52	58	-					-	-	45	45
13			50	54	58	-					48	47	45	45
14			47	55	58	-					49	47	45	44
15			46	55	58	-					49	46	44	44
16			46	55	58	-					49	47	45	43
17			47	55	60	-					50	49	44	43
18			47	55	61	-					51	50	43	42
19			49	55	62	-					-	-	42	41
20			48	53	63	-					-	-	41	41
21			48	53	62	-					-	-	41	41
22			48	53	60	-					-	-	44	41
23			49	54	57	-					-	-	46	44
24			49	56	57	-					-	-	46	45
25			51	56	59	-					-	-	46	45
26			50	56	59	-					-	-	47	46
27			52	55	60	-					-	-	48	47
28			52	55	60	-					47	50	47	45
29			50	56	61	-					-	-	46	45
30			-	55	63	-					-	-	45	42
31			46		63								43	42
Av.			48.6	52.8	58.9	64.6					49.0	48.0	45.3	44.1

From March through June, readings were made with a hand thermometer; from November through December, thermograph recordings were used.

TABLE 54

Daily Maximum and Minimum Water Temperatures, Feather River at Yuba City
Thermograph located one mile south of Yuba City, Sutter County, California
Sec. 20, T. 15 N., R. 3 E, Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1947

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov	Dec.
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1	43	41	43	41	49	48	51	49	67	62	68	64	82	74	82	75	79	71	68	65		
2	42	40	45	42	49	48	52	50	68	64	69	67	77	71	81	75	79	72	67	65		
3	41	40	45	43	49	48	50	49	68	64	70	65	78	68	81	73	80	72	69	65		
4	40	38	46	44	48	47	49	47	67	64	70	66	81	72	83	74	80	73	70	67		
5	40	39	45	44	48	46	50	48	68	64	70	68	80	72	84	76	81	73	69	66		
6	41	39	44	43	47	46	51	49	67	64	69	66	81	72	82	77	80	74	67	64		
7	40	39	44	43	47	46	51	50	66	63	68	66	80	71	80	75	76	71	65	63		
8	40	39	44	44	47	46	51	50	66	63	67	65	80	71	80	73	76	70	63	61		
9	40	38	45	44	47	47	52	50	67	64	65	61	80	71	80	72	77	70	63	60		
10	40	39	47	45	49	47	53	51	64	60	67	63	83	70	80	73	77	71	60	60		
11	40	39	47	46	50	48	55	53	67	62	68	63	84	70	81	74	78	71	62	59		
12	40	39	48	47	50	48	57	54	66	61	72	66	81	72	81	73	79	72	62	58		
13	41	39	48	47	51	48	58	55	68	62	77	70	83	74	81	74	80	73	63	60		
14	41	41	47	46	51	49	58	56	72	65	79	72	82	74	80	73	78	75	64	61		
15	41	38	46	46	52	50	60	58	75	67	81	74	82	74	81	74	76	72	62	61		
16	40	38	47	45	53	51	60	58	76	70	77	73	83	74	80	74	73	72	62	60		
17	40	38	48	47	54	52	59	58	77	71	80	73	83	74	81	75	69	66	61	57		
18	40	38	48	47	52	52	59	58	78	73	83	75	85	75	82	76	69	65	59	57		
19	40	38	48	46	53	52	58	57	80	74	85	78	87	78	81	-	69	65	61	57		
20	41	38	48	47	55	53	59	57	82	76	79	77	87	79	75	72	70	65	60	60		
21	42	38	49	47	55	53	59	57	84	76	74	68	83	76	73	69	71	66	61	58		
22	41	39	49	47	53	53	59	57	82	76	78	68	80	73	76	70	74	69	59	57		
23	42	40	50	47	54	52	58	56	79	74	82	73	80	72	78	71	74	70	59	57		
24	42	41	51	48	53	52	59	56	78	72	84	76	81	73	79	72	73	70	59	57		
25	44	42	52	49	54	50	60	57	80	72	81	76	80	74	76	71	72	68	59	57		
26	46	44	50	50	56	53	60	58	75	72	77	70	79	72	77	69	72	68	60	57		
27	47	45	50	48	55	55	60	57	70	69	78	69	81	73	77	69	72	68	60	58		
28	46	44	49	47	56	54	60	57	72	66	79	70	84	76	76	70	72	68	59	57		
29	44	42			57	55	63	58	75	70	81	72	85	76	75	70	72	68	58	56		
30	44	43			56	54	65	60	71	69	82	74	82	75	77	70	70	67	58	55		
31	45	43			54	53			69	65			82	74	77	71			56	54		
Av.	41.1	39.8	47.6	45.7	51.7	50.2	56.5	54.8	72.4	67.5	75.3	69.6	81.8	73.2	79.8	72.7	74.9	69.8	62.1	59.6		

TABLE 55

Daily Maximum and Minimum Water Temperatures, Feather River at Nicolaus
Thermograph located one mile southwest of Nicolaus, Yuba County, California
Sec. 12, T. 12 N., R. 3 E., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1946 and 1947

	1946				1947																			
	Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.	
Date	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	-	-	48	47	49	42	47	41	50	50	53	51	67	63	69	64	-	-	82	73	82	71	69	-
2	-	-	49	48	49	41	47	41	52	51	53	51	69	65	69	65	-	-	81	74	82	72	69	65
3	-	-	48	47	48	38	48	40	52	50	53	52	68	65	71	64	-	-	81	73	83	71	71	65
4	-	-	50	-	46	36	48	41	50	50	53	51	67	64	69	64	-	-	83	75	83	72	73	66
5	-	-	49	49	42	41	48	47	51	48	54	51	68	64	70	65	-	-	85	77	83	74	70	67
6	-	-	49	48	48	40	46	45	50	47	54	52	66	64	67	65	-	-	83	76	83	74	69	63
7	-	-	48	48	48	40	47	45	49	41	54	53	67	64	69	65	-	-	85	71	79	72	-	62
8	-	-	48	48	45	38	46	46	51	49	55	52	66	63	69	65	-	-	79	72	77	69	-	-
9	-	-	48	47	44	38	48	47	50	50	55	53	66	63	67	64	-	-	80	71	79	70	-	-
10	-	-	47	45	44	39	-	-	51	50	57	53	64	60	69	65	-	-	81	73	80	71	-	-
11	-	-	47	44	42	40	-	48	52	50	57	54	68	61	68	64	-	-	82	74	80	71	-	-
12	-	-	46	46	45	40	51	48	52	50	60	54	66	60	73	64	-	-	82	73	80	72	-	-
13	-	-	46	46	46	39	52	49	53	51	61	57	67	60	76	67	-	-	82	72	80	74	-	-
14	-	-	46	46	-	-	49	49	54	51	61	58	70	61	79	70	-	-	80	72	80	75	65	-
15	-	-	46	44	-	-	50	49	55	52	61	59	73	63	80	71	85	-	81	73	80	73	65	62
16	-	-	45	41	-	-	49	48	56	53	62	59	75	65	76	69	85	72	80	73	74	70	63	61
17	-	-	45	39	-	-	49	48	56	54	61	59	75	67	78	71	86	72	82	74	70	65	62	60
18	-	-	44	37	-	-	50	49	56	53	61	58	75	67	81	73	88	74	83	75	68	63	61	57
19	-	-	42	36	-	-	50	48	55	54	62	59	77	69	82	77	91	77	80	75	70	63	63	60
20	-	-	42	37	-	-	50	49	56	53	61	59	79	70	78	70	89	78	75	70	71	64	62	60
21	-	-	43	39	-	-	51	49	56	55	61	59	78	71	73	65	85	75	74	69	73	66	62	59
22	49	48	45	42	-	-	52	48	55	54	61	57	77	70	78	69	81	70	75	68	76	69	61	58
23	51	49	46	45	-	-	53	50	56	54	62	58	74	68	82	71	82	69	79	70	78	71	60	57
24	50	48	-	45	-	-	53	51	55	54	62	58	74	67	87	72	83	71	80	72	76	70	61	57
25	48	47	-	-	-	-	53	51	53	52	62	59	76	70	87	69	81	73	78	70	74	67	62	58
26	47	45	-	-	54	48	51	52	56	53	64	60	69	68	-	-	80	72	79	67	74	67	63	59
27	47	43	-	-	56	46	52	51	55	54	63	60	68	67	-	-	82	74	79	68	75	68	61	59
28	48	45	-	-	47	43	52	48	57	55	61	59	72	66	-	-	85	76	77	68	74	68	-	58
29	48	46	-	-	46	37			56	55	64	59	73	67	-	-	86	76	77	69	74	67	59	-
30	48	47	-	-	46	42			56	54	65	62	68	67	-	-	84	71	80	69	-	65	59	57
31			-	-	48	45			54	52			66	65			82	72	81	71			57	55
Av.	48.4	46.5	46.4	44.1	47.0	40.7	49.7	47.3	53.5	51.6	59.1	56.2	70.6	65.2	74.7	67.5	84.4	73.2	80.2	71.8	77.1	69.5	63.8	60.2

TABLE 56

Daily Maximum and Minimum Water Temperatures, Yuba River at Daguerre Point

Thermograph located at Daguerre Point Dam, ten miles northeast of Marysville, Yuba County, California
Sec. 31, T. 16 N., R. 5 E., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1946

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.		Nov		Dec.	
										Max.	Min.	Max.	Min.	Max.	Min.
1										-	-	56	55	51	50
2										-	-	57	56	51	50
3										-	-	56	55	52	51
4										-	-	56	52	51	49
5										-	-	56	54	51	49
6										-	-	55	53	50	49
7										-	-	55	54	50	49
8										-	-	55	54	51	50
9										-	-	54	54	51	50
10										-	-	55	54	51	49
11										-	-	54	50	50	48
12										-	-	54	53	49	49
13										-	-	55	50	49	49
14										64	63	55	54	49	48
15										63	62	55	52	49	48
16										62	61	54	53	49	48
17										62	61	56	55	48	47
18										62	61	55	53	48	46
19										62	61	54	53	47	46
20										-	-	-	54	47	46
21										62	-	52	51	47	46
22										60	60	53	52	48	46
23										61	60	53	52	49	48
24										61	59	53	51	49	48
25										62	60	52	51	49	48
26										60	59	53	51	49	48
27										60	59	52	50	50	48
28										59	58	52	51	49	47
29										58	57	52	51	47	46
30										59	57	51	50	47	46
31										57	52			48	46
Av.										60.8	59.0	54.1	52.3	49.2	47.9

TABLE 57

Daily Maximum and Minimum Water Temperatures, Yuba River at Daguerre Point

Thermograph located at Daguerre Point Dam, ten miles northeast of Marysville, Yuba County, California

Sec. 31, T. 16 N., R. 5 E., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1947

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	
1	50	48	48	45	48	48	54	51	60	56	62	58	73	64	73	69	74	71	70	67	60	57	
2	49	47	48	46	50	48	52	50	61	56	62	60	71	64	73	69	75	72	70	68	58	56	
3	49	47	48	45	49	48	52	50	61	57	65	59	69	63	72	69	76	71	70	68	58	56	
4	49	46	48	46	50	49	52	50	61	57	64	60	69	65	73	69	75	71	70	69	58	57	
5	47	47	47	46	50	47	53	51	62	57	62	61	69	65	74	69	75	71	70	68	57	56	
6	48	46	47	46	49	47	54	51	60	57	63	60	69	66	73	70	73	71	68	67	56	55	
7	45	45	47	46	50	47	53	52	61	57	63	61	70	65	73	69	72	70	68	67	57	55	
8	45	44	47	46	50	47	53	51	60	55	63	61	69	65	73	70	73	70	67	65	57	55	
9	45	44	47	46	49	49	54	51	60	56	66	61	70	65	72	69	73	70	67	64	56	54	
10	45	44	49	47	51	49	55	51	60	56	66	62	69	65	73	70	74	70	65	64	56	54	
11	45	44	50	48	51	50	55	52	61	57	66	61	70	65	74	70	74	70	65	64	56	55	
12	44	44	53	50	51	49	57	53	60	56	67	62	70	66	74	70	74	70	65	64	55	54	
13	45	44	50	49	52	49	57	53	61	56	67	63	70	68	75	70	74	70	66	65	55	53	
14	46	44	49	48	52	49	57	53	62	56	68	62	72	68	74	70	74	71	67	64	55	53	
15	47	43	49	47	52	50	58	54	62	57	68	63	71	68	74	71	74	71	66	65	54	54	
16	46	43	49	47	53	50	57	54	62	58	67	63	72	67	74	71	72	71	65	65	55	54	
17	46	44	50	47	53	50	57	54	63	58	68	63	71	67	74	71	70	68	65	63	55	54	
18	46	43	49	47	52	51	57	54	64	58	69	64	72	67	76	72	71	68	65	62	54	52	
19	46	44	50	48	51	50	58	54	64	59	69	65	72	67	74	71	71	67	65	62	53	52	
20	47	44	50	47	53	50	58	55	65	59	67	64	71	69	73	70	70	68	64	62	53	51	
21	47	45	50	48	53	51	58	54	65	60	67	63	72	69	72	69	71	68	63	62	52	51	
22	47	44	50	47	53	51	57	54	64	59	69	63	71	68	73	69	73	70	63	61	51	50	
23	48	45	50	48	53	50	57	53	64	60	69	64	72	68	73	70	74	70	62	60	51	50	
24	48	46	51	48	54	50	58	53	64	59	70	64	72	68	73	71	73	70	62	60	52	50	
25	48	46	51	49	54	51	58	54	65	60	73	65	71	68	73	70	73	70	63	60	52	50	
26	49	47	49	50	54	51	58	54	62	60	70	64	71	68	74	70	72	69	63	60	53	51	
27	49	47	50	49	53	52	57	54	61	59	70	64	72	69	73	70	72	69	62	60	53	51	
28	47	46	50	48	54	52	57	54	63	59	69	64	74	70	73	70	71	69	61	60	54	53	
29	47	44			54	51	59	55	63	59	69	64	73	70	73	70	72	69	60	59	54	52	
30	46	45			53	51	60	55	61	59	75	65	72	69	73	70	71	68	60	58	54	53	
31	48	46			53	51			60	59			73	69	73	70			61	59			
Av.	46.9	45.0	49.1	47.3	51.7	49.6	56.0	52.8	62.0	57.8	67.1	62.4	71.0	66.9	73.3	69.9	72.8	69.8	65.1	63.3	54.8	53.3	

TABLE 58

Daily Maximum and Minimum Water Temperatures, American River at Folsom

Thermograph located at P. G. & E. powerhouse at Folsom, Sacramento County, California

Sec. 26, T. 10 N., R. 7 E., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1946

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	48	44					-	-	50	54	62	59	76	71	80	74	74	71	68	65	53	48	56	53
2	50	46					-	-	55	51	62	59	77	72	81	75	74	70	66	61	52	48	54	54
3	50	43					-	-	55	49	62	59	77	72	81	77	75	71	65	62	51	47	55	54
4	-	-					-	-	56	51	63	58	78	73	81	77	75	73	65	60	51	47	55	55
5	-	-					-	-	57	52	62	59	78	73	80	76	74	70	63	59	50	46	56	55
6	-	-					-	-	57	54	62	57	78	73	79	75	74	70	63	59	49	46	56	56
7	-	-					-	-	57	53	63	58	77	72	79	75	74	69	63	58	51	46	56	56
8	-	-					-	-	55	52	64	59	77	72	79	75	73	68	63	60	51	47	56	56
9	-	-					-	-	56	50	64	60	78	73	79	75	73	69	63	58	51	46	56	55
10	-	-					-	-	56	52	63	59	78	74	79	75	73	69	63	58	49	46	55	54
11	-	-					-	-	56	53	64	60	79	75	79	75	72	67	64	59	48	45	54	53
12	-	-					-	-	56	52	65	61	78	75	79	75	72	66	63	59	48	45	53	53
13	-	-					-	-	56	53	66	62	77	74	79	74	-	-	63	59	47	44	54	53
14	-	-					-	-	55	51	67	63	75	72	78	74	-	-	63	59	49	45	54	53
15	-	-					-	-	56	53	67	63	76	72	77	73	-	-	63	59	50	45	53	53
16	-	-					-	-	57	53	67	63	76	72	77	73	-	-	61	58	49	46	53	52
17	-	-					-	-	58	54	68	63	77	72	77	73	-	-	60	57	50	47	53	52
18	-	-					-	-	59	55	69	65	78	74	78	74	-	-	58	56	49	48	52	50
19	-	-					-	-	59	55	71	67	79	75	78	74	-	-	58	54	51	49	50	50
20	-	-					54	49	59	55	72	68	79	74	77	74	-	-	58	54	50	47	50	49
21	-	-					54	49	56	54	72	69	79	75	78	75	72	67	58	57	47	45	50	50
22	-	-					55	49	54	52	70	67	79	75	78	74	72	68	59	58	51	48	50	43
23	-	-					55	52	54	51	70	66	79	76	78	74	72	68	59	56	52	50	46	43
24	-	-					55	52	56	52	71	67	79	75	78	74	72	68	59	55	51	50	46	44
25	-	-					55	51	56	55	71	67	78	75	77	74	72	68	61	57	52	50	47	44
26	-	-					55	51	56	55	71	67	79	73	77	74	72	68	60	59	52	51	47	45
27	-	-					55	49	56	52	72	67	80	75	77	73	71	68	59	54	52	51	49	46
28	-	-					55	51	58	54	73	68	79	75	74	72	71	67	55	51	53	51	46	44
29	-	-					55	51	59	55	74	69	79	74	73	70	71	67	53	49	55	52	43	42
30	-	-					54	48	61	56	75	70	79	74	74	70	70	67	53	48	53	53	43	40
31	-	-							61	58			79	74	74	72			52	48			41	39
Av.	49.3	44.3					54.7	50.2	56.5	53.1	67.4	63.3	78.0	73.6	77.9	74.0	72.6	68.6	60.7	57.0	50.6	47.6	51.2	49.9

TABLE 59

Daily Maximum and Minimum Water Temperatures, American River at Folsom
Thermograph located at P. G. & E. powerhouse at Folsom, Sacramento County, California
Sec. 26, T. 10 N., R. 7 E., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1947

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.	Dec.
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1	41	39	44	40	50	49	54	51	61	57	66	62	78	73	80	78	77	74	70	69		
2	40	39	45	40	53	50	54	51	63	58	65	62	77	73	80	78	77	75	69	66		
3	40	38	45	41	51	47	53	49	62	59	65	60	77	71	79	76	77	74	69	67		
4	39	37	45	42	50	47	52	47	62	58	64	62	78	73	79	77	77	75	71	69		
5	38	37	45	42	50	45	53	48	62	58	64	63	78	73	79	78	78	75	71	70		
6	39	37	44	43	49	45	54	49	61	58	65	63	78	74	80	78	78	76	70	66		
7	38	38	44	43	49	45	55	50	61	58	66	63	78	74	79	76	77	75	69	65		
8	38	37	44	43	50	47	55	50	60	57	65	63	78	74	78	76	76	71	65	62		
9	38	37	46	44	49	47	56	50	61	57	66	62	78	74	78	77	76	70	64	61		
10	39	37	48	44	51	48	56	50	61	57	68	63	77	73	77	75	76	72	-	-		
11	39	38	48	44	51	47	58	51	64	58	68	64	78	73	78	75	76	73	-	-		
12	39	38	50	48	52	47	60	56	62	59	70	65	79	75	78	75	76	74	-	-		
13	39	38	49	45	53	47	60	56	63	56	72	67	79	76	77	75	77	74	-	-		
14	39	38	49	45	53	48	60	57	63	58	74	69	80	77	77	75	76	75	-	-		
15	39	37	48	47	54	50	60	57	64	60	74	70	79	77	78	75	78	75	-	-		
16	38	36	50	46	55	50	59	57	65	61	74	71	79	76	77	74	77	73	-	-		
17	40	37	50	46	56	51	58	56	66	62	76	71	79	77	78	76	72	71	-	-		
18	39	37	50	46	55	53	59	53	66	62	77	72	81	77	80	77	72	68	-	-		
19	38	36	49	47	54	53	60	57	67	63	78	73	81	77	79	77	71	66	61	55		
20	40	36	51	47	57	53	60	58	68	64	76	73	81	79	78	75	70	65	61	58		
21	41	36	51	47	56	52	59	55	69	64	74	70	81	79	76	72	71	69	61	59		
22	41	37	51	46	56	54	58	53	69	65	76	70	80	77	76	71	74	71	61	56		
23	42	38	51	47	56	51	58	51	70	64	77	72	78	76	76	71	75	73	61	55		
24	44	40	52	49	54	50	58	52	69	65	77	73	78	76	77	73	75	73	60	55		
25	44	41	53	49	54	49	59	55	70	66	77	74	78	76	76	74	73	72	59	54		
26	45	43	52	50	56	50	60	56	69	67	76	72	77	75	75	74	74	69	-	-		
27	44	42	51	49	56	54	59	57	66	64	78	72	79	77	75	73	73	71	-	-		
28	42	40	51	47	57	55	60	54	66	63	77	71	80	79	75	73	72	70	-	-		
29	41	39			55	54	60	57	67	64	77	72	81	79	74	75	72	68	-	-		
30	41	39			54	52	60	56	66	65	78	73	80	77	75	72	71	69	-	-		
31	44	40			54	49			64	63			79	77	76	73			-	-		
Av.	40.3	38.1	49.4	45.2	53.2	49.6	57.6	53.3	64.7	61.0	72.0	67.9	78.8	75.6	77.4	75.0	74.8	71.9	65.1	61.7		

TABLE 60

Daily Maximum and Minimum Water Temperatures, American River at Sacramento *

Thermograph located at H. St. Bridge, at east end of H. St., Sacramento, Sacramento County, Calif.

Sec. 4, T. 8N., R.5E, Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1946

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max	Min	Max	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1							-	-	56	52	63	60	78	73	81	77	75	73	71	69	55	52	49	48
2							-	-	57	53	63	61	79	74	82	78	74	72	70	67	55	52	49	49
3							-	-	56	52	63	61	79	75	83	80	76	74	69	66	54	51	50	49
4							-	-	60	57	63	61	80	76	83	80	76	75	69	65	54	51	50	49
5							-	-	60	55	63	60	81	77	80	78	75	74	67	64	54	51	50	49
6							-	-	61	56	63	61	79	75	78	75	75	74	66	62	54	51	50	49
7							-	-	60	56	64	61	78	74	80	77	75	73	66	62	54	52	49	49
8							-	-	-	-	64	62	78	74	80	77	75	73	66	62	53	51	49	48
9							-	-	57	53	64	62	80	75	81	77	75	73	66	62	53	50	49	48
10							-	-	57	54	64	62	81	77	81	78	75	73	66	63	53	51	49	47
11							-	-	57	54	65	62	81	77	81	78	74	72	67	63	53	50	49	47
12							-	-	57	54	67	63	82	77	80	78	74	71	67	63	53	51	48	47
13							-	-	57	54	68	65	81	77	79	76	74	-	67	63	53	51	48	47
14							-	-	57	54	70	66	79	74	79	77	-	-	66	63	53	51	48	47
15							-	-	57	55	69	66	79	73	78	76	-	-	65	62	53	51	47	47
16							-	-	58	56	69	65	80	74	78	76	-	-	63	61	53	51	48	46
17							-	-	59	56	70	66	81	75	79	76	-	-	63	50	52	51	48	46
18							-	-	60	57	71	66	83	77	79	76	-	-	61	58	52	51	48	46
19							-	-	60	57	73	68	83	78	79	78	-	-	62	59	53	52	47	44
20							-	-	60	57	75	70	82	77	78	76	-	-	61	58	53	52	45	45
21							-	-	59	56	74	70	81	76	79	76	74	71	62	59	52	50	46	45
22							-	-	57	54	72	69	82	77	79	77	74	71	62	60	52	50	46	44
23							-	-	56	53	72	67	82	78	79	77	74	70	62	60	54	52	47	46
24							58	54	57	54	72	68	81	78	78	76	74	71	63	59	52	49	49	48
25							57	53	58	56	74	69	80	76	77	75	74	72	63	60	50	48	49	48
26							56	52	58	56	74	70	80	75	79	76	74	72	63	61	49	47	50	49
27							58	54	57	55	74	70	82	77	78	76	74	71	62	59	48	47	52	50
28							58	54	59	56	74	70	82	77	76	73	74	70	60	56	49	47	51	48
29							57	53	61	58	75	71	80	76	74	72	74	70	59	55	50	47	49	47
30							57	53	62	59	76	72	80	77	75	72	73	70	57	53	50	49	47	45
31									64	61			80	77	75	73			56	53			47	44
Av.							57.3	53.3	58.5	55.3	68.9	65.5	80.4	75.9	79.0	76.3	74.4	72.0	64.1	60.9	52.4	50.3	48.5	47.1

* These data are made available through the Bureau of Marine Fisheries, California Division of Fish and Game.

TABLE 61

Daily Maximum and Minimum Water Temperatures, American River at Sacramento *

Thermograph located at H. St. Bridge, at east end of H. St., Sacramento, Sacramento County, Calif.
Sec. 4, T. 8N., R. 5E., Mt. Diablo B.&M.

Temperature, in degrees Fahrenheit, 1947

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	46	44	-	-	50	49	53	51	62	60	66	63	-	-	-	-	-	-	75	64	-	-	-	-
2	46	44	-	-	52	49	53	52	63	61	65	64	-	-	-	-	-	-	74	62	-	-	-	-
3	46	43	-	-	51	49	52	51	61	58	65	62	-	-	-	-	-	-	75	62	-	-	-	-
4	45	43	-	-	49	48	51	50	60	57	66	63	-	-	-	-	-	-	77	67	-	-	-	-
5	43	42	-	-	49	47	52	50	60	58	66	64	-	-	-	-	-	-	74	66	-	-	-	-
6	43	41	-	-	49	47	53	51	60	59	66	64	-	-	-	-	-	-	72	64	-	-	-	-
7	43	42	-	-	49	48	54	52	60	59	65	63	-	-	-	-	-	-	68	62	-	-	-	-
8	42	40	-	-	49	48	54	52	59	58	65	64	-	-	-	-	-	-	67	60	-	-	-	-
9	41	40	-	-	48	48	55	52	60	58	66	63	-	-	-	-	-	-	65	61	-	-	-	-
10	40	39	-	-	50	48	55	54	59	58	68	64	-	-	-	-	-	-	64	62	-	-	-	-
11	40	39	47	46	50	49	57	54	62	58	68	64	-	-	-	-	-	-	-	-	-	-	-	-
12	40	39	49	47	50	48	58	55	62	60	71	66	-	-	-	-	-	-	-	-	-	-	-	-
13	41	39	48	47	51	49	58	56	63	60	76	69	-	-	-	-	-	-	-	-	-	-	-	-
14	42	40	47	46	52	50	59	57	64	61	75	71	-	-	-	-	-	-	-	-	-	-	48	46
15	43	40	48	47	53	51	60	58	66	63	77	73	-	-	-	-	-	-	-	-	-	-	47	45
16	43	40	48	47	53	51	60	58	67	64	76	73	-	-	-	-	-	-	-	-	-	-	47	46
17	40	38	49	48	54	52	60	58	66	63	77	74	-	-	-	-	-	-	-	-	-	-	47	46
18	40	37	49	48	54	53	59	57	66	63	79	75	-	-	-	-	-	-	-	-	-	-	48	47
19	39	37	50	48	53	52	58	56	66	64	79	76	-	-	-	-	-	-	63	61	-	-	48	47
20	39	38	50	48	55	52	58	57	68	65	-	-	-	-	-	-	86	63	64	60	-	-	-	-
21	40	38	51	49	55	54	59	57	69	66	-	-	-	-	-	-	80	65	63	62	-	-	-	-
22	41	39	51	49	55	54	58	56	70	67	-	-	-	-	-	-	81	71	63	60	-	-	-	-
23	41	39	51	48	55	53	58	56	69	66	-	-	-	-	-	-	85	69	62	60	-	-	-	-
24	43	41	51	49	54	52	59	56	69	67	-	-	-	-	-	-	81	66	61	58	-	-	-	-
25	-	-	52	50	53	52	59	57	70	67	-	-	-	-	-	-	78	66	-	-	-	-	-	-
26	-	-	52	51	55	52	58	57	70	67	-	-	-	-	-	-	76	66	-	-	-	-	-	-
27	-	-	51	50	56	54	59	57	68	66	-	-	-	-	-	-	78	64	-	-	-	-	-	-
28	-	-	51	49	57	55	59	57	68	64	-	-	-	-	-	-	81	67	-	-	-	-	-	-
29	-	-			56	54	60	58	68	65	-	-	-	-	-	-	81	67	-	-	-	-	-	-
30	-	-			54	52	61	59	68	65	-	-	-	-	-	-	81	66	-	-	-	-	-	-
31	-	-			53	51			66	64			-	-	-	-	72	65	-	-	-	-	-	-
Av.	41.9	40.5	49.7	48.2	52.4	50.7	56.9	55.0	64.8	62.3	70.3	67.1					80.0	65.2	67.9	61.9			47.5	46.2

* These data are made available through the Bureau of Marine Fisheries, California Division of Fish and Game.

TABLE 62

Daily Maximum and Minimum Water Temperatures, American River at Sacramento *

Thermograph located at H. St. Bridge, at east end of H. St., Sacramento, Sacramento County, Calif.
Sec. 4, T. 8N., R. 5E, Mt. Diablo B.& M.

Temperature, in degrees Fahrenheit, 19 48

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.								
1	-	-	47	45	50	47	58	55	52	50	58	55	74	72	81	79								
2	-	-	47	45	51	48	56	55	55	52	60	57	75	71	81	79								
3	49	48	48	46	53	50	55	52	56	54	60	57	74	71	81	79								
4	49	48	48	46	52	49	52	50	57	55	58	56	72	69	80	78								
5	49	47	48	46	52	49	51	49	58	56	58	57	72	69	80	77								
6	49	48	-	-	52	49	51	50	58	55	58	56	73	69	79	78								
7	49	48	-	-	52	49	52	51	59	55	60	57	73	69	-	-								
8	49	48	-	-	53	51	53	52	55	51	61	59	74	69	-	-								
9	-	-	-	-	52	50	53	53	54	52	62	60	77	72	-	-								
10	-	-	-	-	54	51	53	51	56	53	62	60	77	73	-	-								
11	-	-	-	-	55	52	53	51	57	54	62	60	78	74	-	-								
12	-	-	-	-	55	53	54	52	58	56	62	60	79	75	-	-								
13	-	-	-	-	53	52	54	53	59	57	62	60	80	76	-	-								
14	-	-	-	-	53	52	54	52	59	56	63	60	81	77	-	-								
15	-	-	-	-	53	51	55	53	57	54	63	61	81	78	-	-								
16	-	-	-	-	52	50	56	53	58	54	64	62	81	78	-	-								
17	-	-	-	-	51	50	53	52	58	54	65	63	81	78	-	-								
18	-	-	-	-	51	49	52	49	55	51	66	64	81	77	-	-								
19	-	-	-	-	52	50	54	50	52	51	66	65	81	77	-	-								
20	-	-	-	-	53	51	55	52	51	50	66	64	82	78	-	-								
21	-	-	50	49	54	51	55	53	52	50	67	64	81	77	-	-								
22	-	-	51	49	54	52	54	52	56	53	66	64	80	77	-	-								
23	-	-	51	49	54	53	54	51	60	56	68	65	79	76	-	-								
24	48	46	51	48	53	51	54	51	61	59	69	66	81	75	-	-								
25	48	47	51	48	52	49	56	53	61	57	70	68	82	77	-	-								
26	48	46	52	49	52	50	56	54	61	57	71	69	82	78	-	-								
27	47	45	51	49	53	51	54	52	60	57	71	69	83	79	-	-								
28	47	44	50	49	53	52	53	52	57	54	72	70	82	79	-	-								
29	45	43			54	51	53	51	57	55	74	71	82	79	-	-								
30	45	42			56	53	52	49	56	54	75	72	81	78	-	-								
31	46	42			56	54			56	54			82	78	-	-								
Av.	47.7	46.0	49.6	47.5	52.9	50.6	53.8	51.8	56.8	54.1	64.6	62.4	78.7	75.0	80.3	78.3								

* These data are made available through the Bureau of Marine Fisheries, California Division of Fish and Game.

TABLE 63

Daily Maximum and Minimum Water Temperatures, Mokelumne River at Highway 99 *
Thermograph located one-half mile north of Lodi, San Joaquim County, California
Sec. 36, T. 4N., R. 6E., Mt. Diablo B.& M.

Temperature, in degrees Fahrenheit, 1947

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	49	48	48	47	52	50	57	54	64	59	62	58	73	67	67	63	68	65	65	62	62	60	55	53
2	49	47	48	47	54	50	56	55	64	60	64	61	67	60	67	62	69	67	64	63	61	58	54	51
3	49	47	49	47	55	53	57	56	64	59	65	62	63	58	66	62	70	65	67	64	59	57	53	51
4	49	48	49	47	54	53	58	54	62	58	64	60	64	59	67	65	67	63	67	66	58	57	53	51
5	48	47	48	47	55	52	60	56	63	60	64	60	66	63	69	65	67	63	68	67	58	55	52	51
6	48	47	48	47	54	52	59	58	65	62	63	61	71	66	68	64	66	63	-	-	56	53	52	50
7	48	47	48	47	55	52	61	59	64	59	63	61	72	68	67	63	66	63	-	-	55	53	51	48
8	48	48	48	47	55	54	63	61	61	57	67	64	72	66	67	62	66	63	-	-	55	53	50	48
9	48	47	48	47	55	54	62	61	60	56	69	65	68	62	66	62	66	64	-	-	54	52	50	48
10	48	48	49	47	-	-	62	57	60	57	69	66	66	62	66	62	66	62	-	-	54	51	51	49
11	48	48	50	49	-	-	59	54	61	57	69	64	67	63	68	65	67	63	-	-	54	52	51	49
12	48	46	51	49	-	-	59	54	-	-	68	64	68	64	68	65	67	64	-	-	53	51	51	49
13	47	45	51	52	-	-	59	54	-	-	69	64	67	62	67	63	67	64	66	63	52	49	50	49
14	48	46	52	50	-	-	60	55	-	-	68	63	68	64	67	63	68	65	66	65	53	50	49	47
15	47	46	51	50	-	-	60	55	-	-	69	67	69	64	67	64	68	67	66	64	53	52	48	46
16	47	46	51	48	-	-	60	55	-	-	70	66	67	62	68	64	68	65	64	63	54	53	50	47
17	48	46	52	48	-	-	59	55	-	-	70	65	66	62	68	64	67	63	64	63	54	52	51	50
18	48	46	52	49	63	60	59	54	-	-	70	65	66	61	70	67	66	62	64	63	53	53	51	50
19	47	46	51	49	60	58	59	55	-	-	70	65	67	62	71	67	64	61	-	-	53	51	51	50
20	47	45	50	49	63	59	58	55	68	63	70	64	68	64	67	63	64	61	-	-	53	50	51	51
21	48	46	51	49	63	60	58	54	65	61	67	62	70	68	66	62	65	62	64	60	52	49	52	50
22	48	46	51	49	61	58	58	54	66	61	70	66	70	65	65	61	67	63	62	60	51	48	52	50
23	48	46	52	49	61	58	58	54	65	60	72	68	66	61	65	61	67	64	62	60	49	46	53	51
24	49	47	54	51	61	56	59	54	64	59	73	67	66	61	66	62	67	64	62	60	48	46	52	52
25	49	47	54	51	61	58	60	55	64	59	70	64	66	62	66	63	67	63	63	60	53	48	52	51
26	49	47	53	51	60	57	60	56	64	60	67	63	66	63	67	64	66	63	63	61	53	51	51	50
27	49	48	52	50	59	57	60	57	61	58	68	64	67	63	66	63	67	63	63	61	54	52	51	50
28	49	47	52	50	59	55	59	58	61	58	68	64	69	67	66	63	66	63	62	60	54	53	50	50
29	48	46			59	57	60	57	62	58	70	67	70	66	66	64	66	64	61	60	55	54	50	48
30	48	47			58	55	62	57	63	59	73	69	68	63	67	63	66	63	62	60	55	53	49	47
31	49	47			57	54			61	58			67	63	67	64			62	60			48	46
Av.	48.2	46.7	50.5	48.7	58.0	55.3	59.4	55.8	63.1	59.0	68.0	64.0	67.7	63.2	67.0	63.4	66.7	63.5	63.9	62.0	54.3	52.1	51.1	49.4

* These data are made available through the Bureau of Marine Fisheries, California Division of Fish and Game.

TABLE 64

Daily Maximum and Minimum Water Temperatures, Mokelumne River at Highway 99*

Thermograph located one-half mile north of Lodi, San Joaquim County, California
Sec. 36, T. 4N., R. 6E., Mt. Diablo B.& M.

Temperature, in degrees Fahrenheit, 1948

Date	Jan.		Feb.		Mar.		Apr.		May		June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.							
1	49	47	47	45	55	52	57	54	53	52							
2	50	49	46	44	56	53	57	54	54	53							
3	53	50	48	44	55	52	54	52	-	-							
4	54	52	47	46	53	50	53	51	-	-							
5	55	53	47	45	54	51	52	50	-	-							
6	55	53	-	-	55	51	54	51	-	-							
7	55	54	-	-	57	52	55	52	-	-							
8	55	54	-	-	56	53	54	52	-	-							
9	54	52	-	-	55	51	53	51	-	-							
10	53	52	-	-	55	52	53	50	-	-							
11	52	49	-	-	55	52	55	52	-	-							
12	-	-	-	-	55	53	56	51	-	-							
13	-	-	-	-	54	52	55	51	-	-							
14	-	-	-	-	52	51	53	50	-	-							
15	-	-	-	-	52	51	57	52	-	-							
16	-	-	-	-	53	51	56	54	-	-							
17	-	-	-	-	53	51	55	51	-	-							
18	-	-	-	-	53	52	57	52	-	-							
19	-	-	-	-	52	54	-	-	-	-							
20	-	-	-	-	53	54	-	-	-	-							
21	-	-	56	52	55	54	-	-	-	-							
22	-	-	57	54	56	54	-	-	-	-							
23	-	-	54	49	57	55	-	-	-	-							
24	-	-	53	47	55	53	-	-	-	-							
25	-	-	54	49	53	50	-	-	-	-							
26	-	-	56	51	54	50	-	-	-	-							
27	-	-	54	52	55	50	53	52	-	-							
28	-	-	54	51	55	51	53	51	-	-							
29	-	-	53	50	54	50	51	49	-	-							
30	-	-			56	51	52	50	-	-							
31	46	44			57	54			-	-							
Av.	52.6	50.7	51.9	48.5	54.5	51.9	54.3	51.4	53.5	52.5							

* These data are made available through the Bureau of Marine Fisheries, California Division of Fish and Game.

TABLE 65

Daily Maximum and Minimum Water Temperatures, San Joaquin River at Mossdale

Thermograph located on Western Pacific Railroad bridge, one-half mile south of Mossdale Bridge, San Joaquin County, California
Sec. 10, T. 2 S., R. 6 E., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1948

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
									Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1									-	-	62	56	74	68	78	73	77	-	67	65	60	54	49	45
2									-	-	63	59	73	69	78	73	76	73	68	64	58	54	49	45
3									-	-	66	62	71	67	77	73	76	73	66	64	59	56	49	47
4									-	-	66	62	70	67	76	71	75	72	68	64	56	55	48	45
5									-	-	67	61	71	67	77	70	75	71	67	64	55	50	47	46
6									-	-	67	62	71	67	78	72	76	72	66	63	56	51	47	45
7									-	-	68	62	72	67	76	71	76	73	66	61	53	51	48	45
8									-	-	67	63	72	67	76	70	77	74	67	63	53	48	49	47
9									-	-	67	63	73	68	75	69	78	74	69	64	52	47	50	47
10									-	-	67	63	75	67	75	68	77	73	68	64	52	48	51	48
11									-	-	67	62	70	66	76	67	78	74	65	64	52	47	51	48
12									-	-	66	61	72	66	77	68	78	74	64	62	54	48	51	48
13									-	-	65	60	73	67	77	70	77	74	64	61	54	48	51	49
14									-	-	65	60	75	69	77	71	76	73	64	60	53	50	50	49
15									-	-	65	60	76	71	75	71	73	70	64	60	57	51	48	46
16									-	-	65	61	81	72	74	69	71	67	65	61	60	53	46	45
17									-	-	67	62	79	74	74	68	68	67	65	61	-	-	51	50
18									-	-	65	63	77	72	75	69	69	66	65	62	-	-	47	43
19									-	-	68	64	78	72	74	69	70	66	64	60	-	-	47	45
20									56	53	69	66	78	73	75	70	71	67	64	59	-	-	45	43
21									58	52	71	68	79	73	77	73	69	66	63	59	-	-	46	45
22									61	53	72	68	79	73	75	71	69	65	64	59	53	-	45	42
23									63	56	72	68	77	72	73	69	67	64	64	59	53	49	44	41
24									64	59	73	68	76	70	75	69	65	61	64	61	53	49	42	38
25									65	60	73	69	77	69	76	70	64	61	64	60	53	49	41	39
26									63	61	73	67	77	70	78	72	64	59	64	60	50	48	42	41
27									63	58	73	67	78	71	78	72	66	60	61	58	49	44	45	42
28									60	58	72	67	78	73	78	73	66	62	59	55	50	44	44	42
29									61	56	74	67	78	71	77	74	67	63	57	55	49	45	45	44
30									59	57	73	69	78	72	76	73	67	64	66	52	49	45	45	45
31									61	56			78	73	76	71			67	53			45	44
Av.									61.1	56.6	68.5	63.6	75.3	69.7	76.1	70.6	71.9	68.2	64.8	60.5	53.7	47.4	47.0	44.8

TABLE 66

Daily Maximum and Minimum Water Temperatures, San Joaquin River west of Stockton
Thermograph located on Highway 4 Bridge, four miles west of Stockton, San Joaquin County, California
Sec. 16, T. 1 N., R. 6 E., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1947

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	43	40	46	43	57	56	62	58	73	67	71	67	76	71	77	72	77	71	71	67	59	56	51	45
2	43	41	46	43	57	55	60	58	73	68	70	68	76	71	77	73	77	72	70	67	58	56	51	49
3	43	40	46	44	55	54	59	56	74	68	71	67	76	71	78	72	77	71	72	67	58	55	50	49
4	42	39	47	45	55	53	59	55	75	68	72	67	77	71	79	73	78	73	72	67	58	54	49	47
5	41	40	47	45	55	52	57	54	74	70	71	68	76	71	80	74	79	73	71	68	57	53	49	45
6	40	39	46	45	55	52	56	54	69	67	71	69	76	71	80	75	79	74	70	67	55	51	48	44
7	40	39	47	44	55	52	58	53	67	65	72	68	76	71	79	74	75	73	68	66	55	50	48	43
8	40	38	46	45	55	52	58	54	65	63	72	69	76	71	78	74	75	71	68	65	54	50	46	41
9	40	36	47	45	55	52	61	55	65	62	73	68	76	71	77	74	75	69	67	63	54	52	45	42
10	40	39	48	45	55	53	63	57	63	61	74	69	75	71	78	73	75	70	65	63	53	49	45	40
11	40	39	49	45	56	53	65	59	65	59	73	69	75	71	78	73	75	71	66	63	52	48	44	41
12	40	38	50	49	58	53	66	59	63	60	74	69	76	71	78	73	76	71	65	62	51	48	44	39
13	40	37	52	50	59	54	68	61	66	60	75	70	77	71	77	73	77	72	66	62	50	46	45	39
14	40	36	52	50	61	56	70	62	68	62	77	71	76	72	78	74	78	73	65	63	50	47	44	39
15	41	39	53	52	63	57	71	63	70	64	76	71	77	71	78	73	77	72	66	63	49	48	44	42
16	41	37	53	50	63	59	70	64	72	65	76	70	77	71	78	74	76	73	64	62	51	49	44	40
17	41	37	53	50	62	59	69	65	73	66	78	71	77	72	79	73	74	71	65	62	50	48	-	-
18	41	37	53	50	61	58	69	65	74	67	80	73	78	72	79	74	72	69	65	62	51	49	-	-
19	41	37	53	51	61	58	71	65	76	68	81	74	80	73	78	74	71	66	66	62	51	47	46	45
20	41	38	54	51	62	58	70	66	78	70	79	72	80	74	78	74	72	66	64	62	50	45	46	45
21	42	37	54	51	62	58	68	64	79	71	76	72	79	74	75	73	72	67	64	61	50	45	47	45
22	43	38	55	51	60	58	66	63	77	71	78	71	77	73	76	71	73	68	64	60	58	45	47	45
23	43	39	56	53	60	57	66	63	75	71	78	73	76	72	76	71	74	68	63	60	58	43	48	46
24	45	42	56	53	60	55	67	63	75	72	78	72	76	71	78	72	73	68	63	58	57	41	47	46
25	47	43	58	53	60	56	68	63	75	70	78	72	76	72	75	72	72	69	64	59	47	41	47	46
26	48	45	57	55	63	57	68	64	72	68	77	73	77	72	75	71	74	69	64	59	48	41	47	45
27	47	46	57	55	62	59	67	64	71	68	76	72	78	73	74	71	73	70	62	60	47	44	46	45
28	47	45	58	55	63	60	67	64	71	67	76	71	78	73	75	71	74	69	61	59	48	45	46	44
29	47	45			63	61	68	64	72	67	76	71	79	73	74	71	73	69	60	60	50	47	46	44
30	46	45			63	59	71	65	69	68	76	72	78	72	76	71	70	68	61	58	50	49	45	41
31	46	44			62	58			70	68			78	73	76	71			60	57			45	40
Av.	42.5	39.9	51.4	48.9	59.3	55.9	65.3	60.7	71.2	66.6	75.2	70.2	76.9	71.8	77.2	72.7	74.8	70.2	65.5	62.4	52.6	48.1	46.6	43.5

TABLE 67

Daily Maximum and Minimum Water Temperatures, San Joaquin River west of Stockton

Thermograph located on Highway 4 Bridge, four miles west of Stockton, San Joaquin County, California
Sec. 16, T. 1 N., R. 6 E., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1948

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	44	42	48	44	55	52	63	59	-	-	66	61	73	70	81	76	79	76	69	66	59	51	49	44
2	45	42	48	44	55	53	62	59	-	-	66	62	75	70	80	77	79	74	69	66	59	56	48	44
3	45	43	48	44	55	52	61	58	-	-	64	62	72	70	80	76	80	75	70	67	59	57	48	46
4	47	45	48	44	56	51	60	59	-	-	64	61	71	68	80	75	80	75	69	66	58	55	48	44
5	48	46	48	45	55	52	59	58	69	-	65	61	72	69	80	75	80	75	68	65	57	56	48	46
6	50	48	47	44	56	52	58	54	69	65	65	62	73	68	81	76	79	75	68	64	58	54	48	45
7	51	49	48	43	56	53	60	56	66	64	67	62	73	69	79	76	80	75	68	64	57	54	48	45
8	52	50	48	43	55	53	60	58	65	63	67	63	74	69	79	75	79	75	70	65	56	52	48	46
9	52	49	49	47	55	53	60	58	64	62	67	64	75	69	78	74	79	75	69	65	55	50	48	46
10	52	49	48	46	55	52	61	58	65	60	66	64	77	72	78	73	80	75	69	65	54	49	49	47
11	51	49	48	43	56	52	62	58	66	60	68	64	77	71	79	73	80	75	66	65	54	49	50	47
12	50	47	48	41	56	53	-	-	67	62	67	64	77	73	79	74	80	76	66	65	54	49	50	48
13	50	47	48	43	55	54	-	-	67	64	67	63	79	73	79	74	80	76	67	63	54	50	51	48
14	48	43	50	43	56	54	-	-	67	63	66	62	81	74	79	75	79	75	65	63	54	50	49	47
15	47	42	50	47	56	53	66	61	69	63	66	62	82	76	79	75	78	74	66	63	55	51	49	47
16	47	42	51	48	54	52	63	62	68	65	67	62	81	76	78	74	75	74	67	63	55	52	47	44
17	46	41	52	48	55	52	65	61	65	64	67	62	82	76	77	74	75	72	67	63	55	53	48	46
18	47	41	52	50	55	53	66	61	62	58	67	63	82	75	77	74	74	72	67	64	55	52	47	44
19	47	41	52	50	55	52	67	62	59	58	70	64	82	76	78	73	75	71	66	63	54	52	47	44
20	47	41	53	49	56	52	67	63	58	57	71	66	82	76	79	74	74	71	65	62	54	51	46	43
21	47	-	53	49	58	53	66	63	60	56	73	68	82	76	78	74	71	69	66	62	53	50	47	43
22	47	43	55	53	58	54	67	64	59	57	74	69	81	76	76	74	71	68	65	61	53	49	46	42
23	48	44	53	51	57	55	65	63	67	61	75	70	79	75	76	72	70	67	66	62	53	49	45	41
24	48	44	54	49	56	54	65	61	68	63	75	70	81	76	77	71	69	66	66	62	53	49	44	39
25	48	45	55	49	57	53	66	63	70	64	74	70	81	76	78	72	69	65	66	62	52	48	43	41
26	46	43	55	51	57	50	66	62	65	65	74	69	81	76	78	73	69	64	65	62	51	48	44	42
27	45	43	55	51	61	53	64	61	66	69	74	70	82	77	78	74	70	64	64	60	51	48	44	41
28	48	43	54	51	59	56	62	60	65	62	74	69	81	77	80	74	69	63	63	60	50	45	42	39
29	48	43	55	51	61	57	-	-	64	61	75	69	80	76	79	75	69	64	62	59	50	44	43	41
30	48	43			61	57	-	-	62	61	73	71	80	76	79	75	69	65	61	58	49	43	45	42
31	48	42			64	58			64	62			81	76	79	74			61	56			45	43
Av.	48.0	44.3	50.8	46.9	56.7	53.2	63.2	60.1	65.0	61.9	69.1	65.0	78.4	73.5	78.6	74.2	75.4	71.4	66.3	62.9	54.4	50.5	46.9	44.0

TABLE 68

Daily Maximum and Minimum Water Temperatures, Middle River at Tracy Road
Thermograph located at Tracy Road, seven miles southwest of Stockton, San Joaquin County, California
Sec. 1, T. 1 S., R. 5 E., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1948

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	46	41	-	-	54	46	62	55	58	50	65	57	74	69	79	75	79	-	70	64	59	54	49	42
2	46	45	-	-	54	48	58	54	61	53	66	59	74	71	80	76	78	74	69	64	61	54	49	42
3	49	46	-	-	53	43	59	53	62	56	67	61	73	68	80	76	77	73	69	65	62	57	48	44
4	51	49	-	-	53	45	57	53	66	53	66	60	71	66	79	74	77	73	68	64	59	54	47	43
5	52	51	47	44	52	46	58	52	67	62	66	60	73	66	78	74	75	72	68	64	58	51	47	43
6	53	51	-	-	53	45	59	51	68	63	65	61	73	68	78	74	76	71	66	61	57	51	47	44
7	54	53	49	45	55	47	60	52	65	61	66	60	73	68	78	74	76	71	68	62	57	52	47	42
8	54	53	49	46	52	49	59	55	64	57	67	62	72	67	76	72	76	72	68	63	54	48	48	43
9	55	49	-	-	54	47	58	54	64	58	67	62	73	67	75	70	76	72	68	65	55	47	48	43
10	53	48	-	-	55	49	61	54	63	58	67	63	74	70	75	69	76	73	69	63	53	48	49	43
11	52	45	-	-	56	45	63	55	65	58	68	63	74	68	77	69	76	73	67	61	54	47	49	43
12	50	44	-	-	55	49	63	51	65	59	67	62	75	69	75	70	77	73	67	61	54	47	49	44
13	-	-	-	-	52	50	59	55	66	61	66	61	77	71	75	71	78	73	62	61	54	47	49	46
14	-	-	-	-	53	48	60	56	64	59	65	60	79	74	77	72	77	75	66	61	54	47	49	44
15	-	-	-	-	49	48	64	57	67	60	67	60	80	76	77	73	76	73	65	61	57	50	47	43
16	-	-	-	-	51	48	63	59	68	61	67	61	80	77	76	72	73	69	66	61	56	49	46	43
17	-	-	-	-	53	47	65	59	65	58	67	60	82	77	76	71	71	68	66	61	56	50	45	42
18	-	-	-	-	52	47	64	57	61	55	68	61	80	77	76	72	72	67	67	61	55	46	48	42
19	-	-	-	-	54	47	65	58	59	55	70	61	80	75	76	71	72	67	66	60	59	48	46	41
20	-	-	-	-	53	47	64	59	58	53	70	65	80	76	77	72	72	67	65	58	55	48	45	41
21	-	-	54	46	56	45	64	58	61	53	72	64	-	76	76	73	69	66	64	59	54	48	46	39
22	-	-	55	51	57	50	64	60	64	54	73	68	79	-	74	72	70	64	70	59	53	46	43	36
23	-	-	-	-	57	52	63	57	66	-	73	69	79	74	74	74	69	63	65	59	52	48	43	38
24	-	-	51	44	53	49	63	57	66	59	74	69	78	73	75	68	67	63	66	61	52	46	41	37
25	-	-	53	44	56	48	65	59	67	60	74	69	-	-	75	69	66	60	65	60	51	46	40	36
26	-	-	52	46	59	47	62	57	68	63	73	67	77	72	76	71	66	60	65	59	50	44	43	38
27	-	-	52	46	61	48	63	57	66	61	73	67	78	72	76	72	67	61	64	58	49	43	-	38
28	-	-	52	46	58	54	61	54	63	57	74	67	78	74	77	72	68	61	62	56	50	42	-	-
29	-	-	53	46	60	53	56	52	63	57	74	68	78	74	77	73	69	63	61	59	49	43	44	40
30	-	-			60	54	56	50	62	59	75	-	78	73	78	73	69	63	60	53	50	42	44	39
31	-	-			61	54			63	57			79	74	79	73			59	53			45	40
Av.	51.5	47.9	51.5	45.9	54.9	47.9	61.3	55.3	64.0	57.3	69.0	63.0	76.5	71.3	76.7	72.2	73.0	68.3	65.8	60.5	54.6	48.1	46.2	41.3

TABLE 69

Daily Water Temperatures, Old River at Clifton Court

Temperatures taken at Clifton Court Ferry, San Joaquin County, California

Sec. 20, T. 1 S., R. 4 E., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1947

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	Oct.	Nov.	Dec.	
	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM				Max.	Min.
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	-				-	-
2	-	-	-	-	-	-	61	-	71	-	71	-	-	70	-	-				-	-
3	-	-	49	-	58	-	-	-	-	-	-	-	71	-	-	-				-	-
4	-	-	-	-	-	-	61	-	-	-	71	-	-	-	72	-				-	-
5	-	-	50	-	58	-	-	-	74	-	-	-	-	-	-	-				-	-
6	-	-	-	-	-	-	-	-	-	-	-	71	-	-	75	-				-	-
7	-	-	50	-	-	-	60	-	-	70	-	-	71	-	-	-				-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74	-				-	-
9	-	-	-	-	-	-	60	-	68	-	-	-	71	-	-	-				-	-
10	-	-	50	-	59	-	-	-	-	-	-	-	-	-	-	-				-	-
11	-	-	-	-	-	-	63	-	-	-	-	70	71	-	74	-				-	-
12	-	-	52	-	-	-	-	-	65	-	-	-	-	-	-	-				-	-
13	-	-	53	-	-	-	-	-	-	-	-	72	-	-	73	-				-	-
14	-	-	-	-	-	-	67	-	66	-	-	-	70	-	-	-				-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74	-				-	-
16	-	-	-	-	-	-	68	-	68	-	74	-	72	-	-	-				-	-
17	-	-	55	-	63	-	-	-	-	-	-	-	-	-	-	-				47	46
18	-	-	-	-	-	-	67	-	-	-	-	75	72	-	75	-				48	47
19	-	-	55	-	62	-	-	-	72	-	-	-	-	-	-	-				49	48
20	-	-	-	-	-	-	-	-	-	-	-	74	-	-	74	-				49	48
21	-	-	-	-	63	-	67	-	74	-	-	-	74	-	-	-				49	48
22	45	-	-	-	-	-	-	-	-	-	-	-	-	-	72	-				50	49
23	-	-	-	-	-	-	67	-	73	-	75	-	73	-	-	-				50	49
24	46	-	58	-	62	-	-	-	-	-	-	-	-	-	-	-				51	50
25	-	-	-	-	-	-	67	-	-	-	74	-	-	-	73	-				50	50
26	-	-	58	-	63	-	-	-	-	-	-	-	-	-	-	-				50	50
27	49	-	-	-	-	-	-	-	-	-	72	-	-	-	71	-				50	50
28	-	-	-	-	63	-	68	-	72	-	-	-	74	-	-	-				51	49
29	50	-	-	-	-	-	-	-	-	-	-	-	-	-	72	-				-	-
30	-	-			-	-	68	-	-	-	72	-	72	-	-	-				-	-
31	49	-			63	-			-	-			-	-	-	-				-	-
Av.	47.8	-	53.0	-	61.4	-	64.9	-	70.3	70	72.7	72.4	71.9	70	73.1	-				49.5	48.6

Jan. - Aug. -- Column I for each month records afternoon temperatures between 1:00 and 4:00 P.M.
Column II for each month records morning temperatures between 9:30 and 11:30 A.M.

December -- Thermograph, maximum and minimum.

TABLE 70

Daily Maximum and Minimum Water Temperatures, Old River at Clifton Court
Thermograph located at Clifton Court Ferry, San Joaquin County, California
Sec. 20, T. 1 S., R. 4 E., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1948

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	48	47	47	45	53	51	60	58	60	57	67	61	75	73	77	75	76	73	69	67	59	58	49	47
2	48	48	46	45	53	51	59	58	62	59	64	62	74	72	77	74	76	74	69	67	59	58	49	47
3	49	48	47	46	52	51	59	58	65	61	66	63	73	71	76	74	77	74	70	68	60	59	50	48
4	50	48	46	45	53	51	58	57	65	63	-	-	71	70	76	74	76	75	68	68	59	58	49	48
5	51	49	46	45	52	51	58	58	65	64	-	-	72	69	76	74	76	75	68	66	58	55	49	46
6	52	51	46	45	53	51	-	-	64	63	-	-	74	72	76	74	76	75	67	66	59	55	49	47
7	53	51	46	45	53	52	-	-	64	61	-	-	74	71	77	76	76	74	68	66	58	56	48	43
8	54	52	46	45	52	52	59	57	63	61	-	-	74	71	75	73	76	75	68	67	57	50	49	47
9	55	53	47	46	53	51	59	58	64	60	68	-	74	71	74	72	76	75	68	67	58	47	49	43
10	55	53	48	47	53	51	59	57	65	61	68	66	75	72	73	71	76	74	68	66	56	51	49	48
11	54	53	47	46	53	51	59	57	66	63	69	66	75	72	73	71	78	74	66	65	55	53	51	50
12	54	53	47	44	54	52	60	58	65	63	68	66	76	72	73	71	78	74	66	65	56	53	51	49
13	53	52	47	45	53	52	60	59	65	62	67	65	78	74	73	72	78	75	66	65	55	53	52	50
14	53	51	47	45	52	51	-	58	64	63	66	64	-	75	74	72	77	74	66	65	56	53	50	49
15	52	51	48	46	53	51	-	-	66	63	67	64	-	-	74	71	75	74	65	65	56	55	50	49
16	51	50	50	48	53	52	-	-	66	63	66	64	-	-	73	70	74	72	66	65	56	54	48	48
17	51	49	52	48	54	52	-	-	65	64	67	64	-	-	72	70	74	72	67	65	57	55	48	48
18	51	49	51	49	54	52	-	-	64	60	66	64	-	-	72	71	73	72	67	65	56	54	49	48
19	50	48	50	49	54	53	-	-	61	59	69	66	-	-	73	70	73	72	65	64	57	54	49	48
20	51	49	51	49	54	52	-	-	58	57	70	68	-	-	74	71	73	71	66	64	57	55	47	45
21	50	48	51	50	54	52	-	-	60	57	71	69	-	-	74	73	71	69	65	63	56	53	47	46
22	50	48	52	50	55	54	-	-	61	59	-	-	78	76	73	72	70	68	65	64	55	51	47	44
23	50	49	51	50	55	54	-	-	64	60	74	-	78	77	72	70	69	68	65	64	54	50	45	44
24	50	49	52	50	55	53	63	62	64	62	74	72	78	76	72	71	68	66	66	64	55	52	45	42
25	50	48	53	49	56	53	64	61	66	63	75	72	77	76	73	71	68	66	65	63	53	51	45	44
26	50	49	52	50	56	53	62	61	66	64	75	73	77	75	74	72	67	65	65	63	54	52	44	43
27	50	48	52	51	58	55	63	61	65	64	74	71	76	75	74	72	67	65	64	63	52	50	44	43
28	48	47	52	50	57	55	61	59	65	63	74	72	76	76	75	73	67	65	63	62	52	49	44	43
29	48	47	53	50	59	56	59	57	64	61	77	72	76	75	76	73	67	66	62	61	51	48	44	43
30	47	45			60	57	59	57	62	61	76	73	76	74	76	73	68	67	61	60	50	47	45	43
31	47	45			60	59			64	61			77	75	76	73			60	59			46	44
Av.	50.8	49.2	49.0	47.3	54.4	52.6	60.0	58.6	63.8	61.8	69.9	67.1	75.4	73.3	74.3	72.2	73.2	71.3	65.9	64.5	55.8	52.9	47.8	46.0

TABLE 71

Daily Morning Water Temperatures, San Joaquin River at Antioch

Hand thermometer readings taken near north bank, one-half mile west of Antioch Bridge, Sacramento County, California
Sec. 9, T. 2 N., R. 2 E., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1947

Date	Jan. A.M.	Feb. A.M.	Mar. A.M.	Apr. A.M.	May A.M.	June A.M.	July A.M.	Aug. A.M.	Sept. A.M.	Oct. A.M.	Nov. A.M.	Dec. A.M.
1	-	-	-	59	66	-	69	72	70	68	-	50
2	-	-	-	59	65	67	70	-	70	66	-	49
3	-	46	54	58	-	67	69	-	71	67	59	49
4	-	46	54	58	-	66	-	71	70	-	60	50
5	-	47	54	-	67	68	-	73	70	-	59	50
6	45	47	54	-	67	68	-	73	-	66	57	50
7	45	47	54	58	68	-	70	72	-	66	57	-
8	45	-	-	58	-	68	70	73	69	66	-	50
9	44	-	-	58	-	68	70	-	70	66	-	49
10	44	47	54	59	-	68	69	-	70	65	55	48
11	-	47	54	59	-	68	70	72	70	-	55	48
12	-	49	-	-	64	69	-	72	70	-	54	47
13	43	49	-	-	-	70	-	72	-	63	53	-
14	42	-	-	61	65	-	70	70	-	64	54	-
15	43	-	-	63	65	-	70	70	70	64	-	48
16	42	-	-	64	67	69	72	-	70	64	-	48
17	-	50	57	64	-	70	70	-	69	64	53	48
18	-	50	57	64	-	72	71	71	69	-	52	48
19	-	50	57	-	68	72	-	69	69	-	52	48
20	43	51	57	-	67	-	-	70	-	64	51	-
21	43	51	57	64	-	-	72	68	-	64	51	48
22	43	-	-	64	68	-	71	68	70	63	-	48
23	43	-	-	64	-	71	70	-	69	63	-	48
24	44	53	58	64	-	70	71	-	69	63	50	48
25	-	-	58	64	-	69	71	70	69	-	50	-
26	-	53	59	-	66	69	-	69	70	-	50	-
27	43	-	60	-	66	69	72	71	-	63	50	-
28	43	53	60	-	66	-	72	69	-	62	50	-
29	45	-	-	64	66	-	71	69	69	62	-	48
30	45	-	-	65	-	70	72	-	68	61	-	47
31	46	-	60	-	-	-	72	-	-	61	-	46
Av.	43.7	49.2	56.5	61.5	66.3	68.9	70.8	70.7	69.6	64.1	53.6	48.4

Temperatures taken between 8:30 and 11:00 A.M.

TABLE 72

Daily Afternoon and Morning Water Temperatures, San Joaquin River at Antioch

Hand thermometer readings taken near north bank, one-half mile west of Antioch Bridge, Sacramento County, California
Sec. 9, T. 2 N., R. 2 E., Mt. Diablo B. & M.

Temperature, in degrees Fahrenheit, 1948

Date	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.
1	-	-	-	-	-	50	-	54	-	-	-	63	-	-	-	-	72	-	65	-	69	-	-	51
2	-	47	-	-	-	-	-	55	-	-	-	-	-	69	70	-	-	70	-	-	62	-	-	50
3	-	-	-	45	-	50	-	-	-	56	-	63	-	-	-	69	-	71	-	-	-	61	-	49
4	-	-	-	45	-	50	-	-	-	58	-	63	-	-	-	69	-	-	68	-	59	-	-	-
5	-	48	-	46	-	50	-	55	-	59	-	-	-	-	-	69	-	-	66	-	-	58	-	-
6	-	49	-	47	-	-	-	54	-	-	-	-	-	68	-	71	-	-	68	-	-	-	-	47
7	-	48	-	-	-	-	-	54	-	58	-	63	-	-	-	-	-	73	66	-	-	-	-	48
8	-	49	-	-	-	50	-	-	-	-	-	-	69	-	-	-	-	69	68	-	-	55	-	49
9	-	50	-	46	-	51	-	-	-	-	-	65	-	68	-	70	-	70	-	-	-	55	48	-
10	-	-	-	46	-	51	-	-	-	59	-	-	-	-	-	70	-	71	-	-	-	55	-	49
11	-	-	-	45	-	51	-	-	-	60	-	65	-	-	-	70	-	-	65	-	-	-	-	-
12	-	-	-	46	-	52	-	56	-	61	-	-	-	71	-	70	-	-	66	-	-	54	-	-
13	-	49	-	45	-	-	-	55	-	61	-	-	-	-	-	70	-	71	64	-	-	-	-	49
14	-	49	-	-	-	-	-	55	-	60	-	65	-	71	-	-	-	71	64	-	-	-	49	-
15	-	48	-	-	-	51	-	-	-	-	-	-	74	-	-	-	-	69	64	-	-	54	-	48
16	-	48	-	45	-	51	-	56	-	-	-	66	-	72	-	70	-	69	-	-	-	55	-	49
17	-	-	-	-	-	51	-	-	-	62	-	-	-	-	-	70	-	69	-	-	-	54	-	52
18	-	-	-	-	-	51	-	-	-	-	-	65	-	-	70	70	-	-	-	64	-	54	-	-
19	-	48	-	-	-	51	-	56	-	61	-	-	73	-	71	-	-	-	-	63	-	54	-	-
20	-	48	-	48	-	-	-	-	-	-	-	-	-	72	-	70	-	68	-	63	-	-	47	-
21	-	48	-	-	-	-	-	56	-	63	-	68	-	-	-	-	68	-	-	64	-	-	-	46
22	-	48	-	-	-	52	-	57	-	-	-	-	73	-	-	-	-	66	-	63	-	53	-	45
23	-	48	-	-	-	52	-	56	-	-	-	70	71	-	71	-	-	65	-	-	-	52	-	45
24	-	-	-	48	-	54	-	-	-	-	-	-	-	-	-	69	-	65	-	-	-	52	-	45
25	-	-	-	48	-	-	-	-	-	61	-	68	-	-	-	70	-	-	-	64	-	51	-	-
26	-	47	-	49	-	-	-	57	-	63	-	-	72	-	-	70	-	-	64	-	-	52	-	-
27	-	46	-	49	-	-	-	57	-	-	-	-	-	72	-	70	-	65	-	62	-	-	-	45
28	-	46	-	50	-	-	-	57	-	62	-	69	-	72	-	-	-	65	-	61	-	-	-	44
29	-	47	-	-	-	53	-	-	-	-	-	69	-	71	-	-	-	65	-	61	-	51	-	44
30	-	47			-	52	-	55	-	-	-	68	-	70	-	70	-	-	-	-	-	51	-	44
31	-	-			-	54			-	-			-	-	-	70			-	-			-	43
Av.	-	47.9	-	46.8	-	51.3	-	55.5	-	60.2	-	66.0	72	70.6	70.5	69.9	70	68.5	65.7	62.8	60.3	53.9	48	47.1

First column records afternoon temperatures between 12:30 and 4:00 P.M.
Second column records morning temperatures between 9:30 and 11:30 A.M.